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Service Manual

ORDER NO.
RRV2588

AUDIO/VIDEO MULTI-CHANNEL RECEIVER

VSX-D411
VSX-D411-S

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Type	Model		Power Requiremen	Remarks
	VSX-D411	VSX-D411-S		
KUXJI	◯	—	AC120V	
KUXJICA	—	◯	AC120V	

● **This service manual should be used together with the following manual(s):**

Model No.	Order No.	Remarks
VSX-D511/KUXJI	RRV2581	

PIONEER CORPORATION 4-1, Meguro 1-chome, Meguro-ku, Tokyo 153-8654, Japan
PIONEER ELECTRONICS (USA) INC. P.O. Box 1760, Long Beach, CA 90801-1760, U.S.A.
PIONEER EUROPE NV Haven 1087, Keetberglaan 1, 9120 Melsele, Belgium
PIONEER ELECTRONICS ASIACENTRE PTE. LTD. 253 Alexandra Road, #04-01, Singapore 159936
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T – ZZK MAR. 2002 Printed in Japan

1. CONTRAST OF MISCELLANEOUS PARTS

NOTES:
- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Screws adjacent to ▼ mark on product are used for disassembly.*
- *Reference Nos. indicate the pages and Nos. in the service manual for the base model.*
- *For the applying amount of lubricants or glue, follow the instructions in this manual. (In the case of no amount instructions, apply as you think it appropriate.)*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).

560 → 56 x 10^1 → 561 ····· RD1/4PU 5 6 1 J
47k → 47 x 10^3 → 473 ····· RD1/4PU 4 7 3 J
0.5 → R50 ····· RN2H R 5 0 K
1 → 1R0 ····· RS1P 1 R 0 K

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62k → 562 x 10^1 → 5621 ····· RN1/4PC 5 6 2 1 F

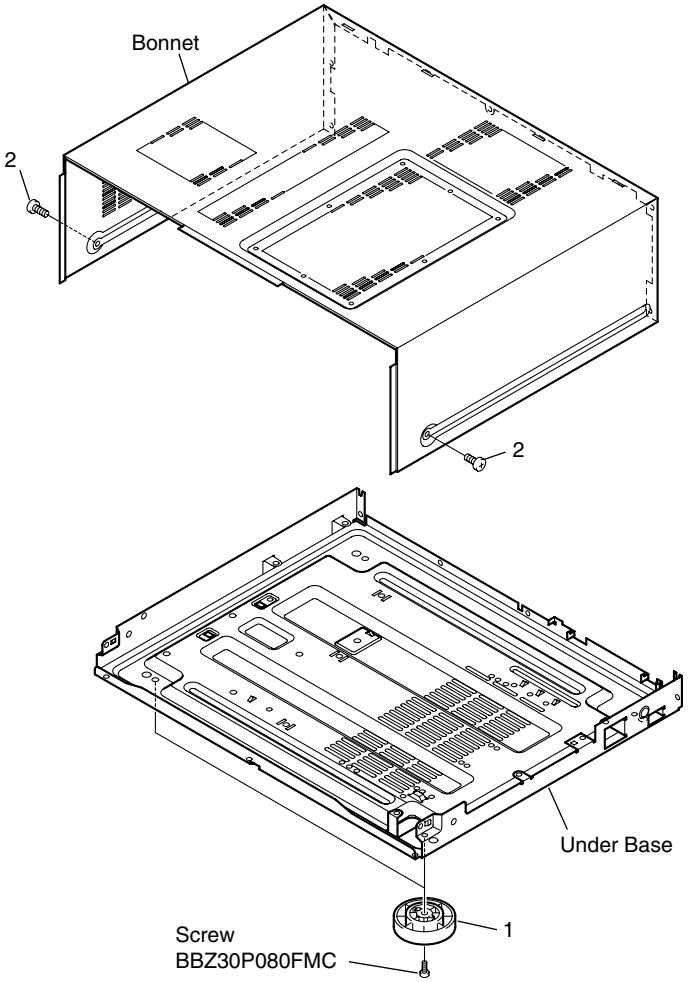
■ CONTRAST TABLE

VSX-D411/KUXJI, VSX-D411-S/KUXJICA and VSX-D511/KUXJI are constructed the same except for the following :

Ref. No.	Mark	Symbol and Description	Part No.			Remarks
			VSX-D511 /KUXJI	VSX-D411 /KUXJI	VSX-D411-S /KUXJICA	
		PCB ASSEMBLIES				
	NSP	AMP&PS ASSY	XWK3052	XWK3071	XWK3071	
P9 - 7		└ BOARD TO BOARD ASSY	XWZ3527	Not used	Not used	
	NSP	COMPLEX ASSY	XWK3037	XWK3070	XWK3070	
P9 - 10		├ S. VIDEO ASSY	XWZ3521	Not used	Not used	
P11 - 1		└ FRONT ASSY	XWZ3492	XWZ3587	XWZ3587	
		PACKING SECTION				
P7 - 13		Packing Case	XHD3200	XHD3209	XHD3219	
		EXTERIOR SECTION				
P9 - 36		Rubber sheet	AEB1111	AEB1111	Not used	
P9 - 40		Rear Panel	XNC3139	XNC3164	XNC3164	
P9 - 41		Bonnet	XZN3112	XZN3112	XZN3123	
		Insulator	Not used	Not used	PNW2766	No. 1
		Screw	FBT40P080FZK	FBT40P080FZK	FBT40P080FNI	No. 2
	NSP	N Label 411/KU	Not used	XAL3110	Not used	*1
		FRONT PANEL SECTION				
P11 - 6		Front Panel	XMB3060	XMB3061	XMB3086	
P11 - 7		Sub Button	XAD3125	XAD3125	XAD3133	
P11 - 9		Pioneer Badge	XAM3006	XAM3006	VAM1129	
P11 - 11		Select Knob	XAB3023	XAB3023	XAB3024	
P11 - 12		Volume Knob	XAB3025	XAB3025	XAB3026	
P11 - 13		Power Button	XAD3123	XAD3123	XAD3129	
P11 - 14		Sub Panel R5B	XAK3272	XAK3338	XAK3339	
P11 - 15		Jog Button	XAD3124	XAD3124	XAD3131	
P11 - 18		D Panel R5 W	XAK3274	XAK3342	XAK3342	

Notes : For PCB ASSEMBLIES, Refer to "CONTRAST OF PCB ASSEMBLIES" and "2. SCHEMATIC DIAGRAM".
The numbers in the remarks column correspond to the numbers on the " EXPLODED VIEWS ".
*1 Stick N Label on the Rear Panel.

■ EXPLODED VIEWS (VSX-D411-S/KUXJICA ONLY)



■ CONTRAST OF PCB ASSEMBLIES

0F FRONT ASSY

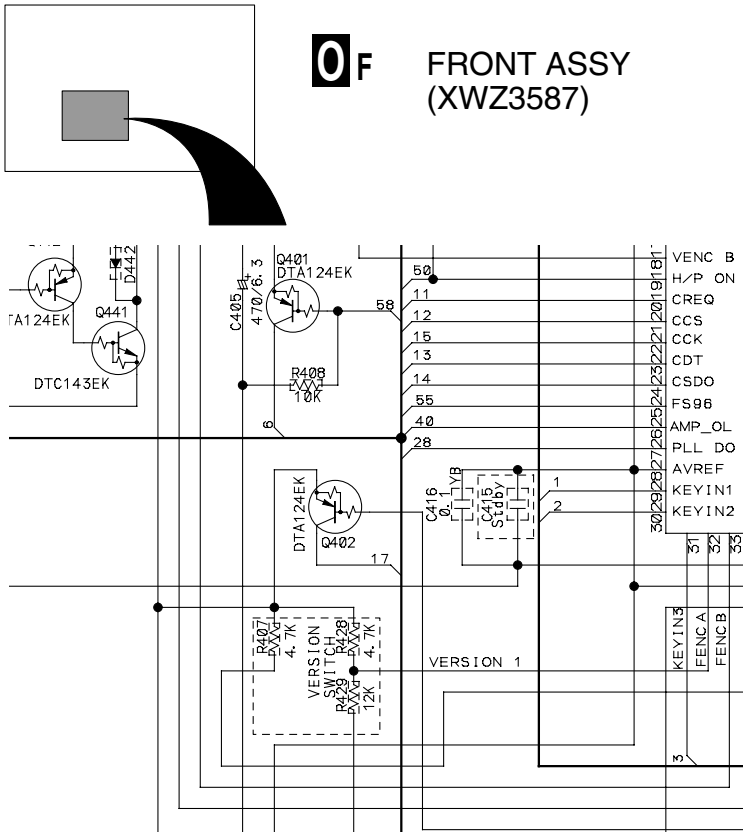
XWZ3587 and XWZ3492 are constructed the same except for the following :

Mark	Symbol and Description	Part No.		Remarks
		XWZ3492	XWZ3587	
	R428	Not used	RS1/16S472J	
	R429	RS1/16S0R0J	RS1/16S123J	

2. SCHEMATIC DIAGRAM

Note : When ordering service parts, be sure to refer to "EXPLODED VIEWS and PARTS LIST" or "PCB PARTS LIST"

2.1 FRONT ASSY



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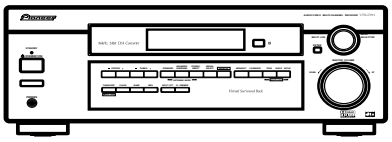
Service Manual



VSX-D511

ORDER NO.
RRV2581

AUDIO/VIDEO MULTI-CHANNEL RECEIVER

VSX-D511

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Model	Type	Power Requirement	Remarks
VSX-D511	KUXJI	AC120V	
VSX-D511	KCXJI	AC120V	

For details, refer to "Important symbols for good services" on the next page.

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ⓒ**PIONEER CORPORATION 2002**

T-ZZR FEB.2002.printed in Japan

SAFTY INFORMATION

This service manual is intended for qualified service technicians ; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.
Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING
This product contains lead in solder and certain electrical parts contain chemicals which are known to the state of California to cause cancer, birth defects or other reproductive harm.

Health & Safety Code Section 25249.6 – Proposition 65

NOTICE
(FOR CANADIAN MODEL ONLY)
Fuse symbols (fast operating fuse) and/or (slow operating fuse) on PCB indicate that replacement parts must be of identical designation.

REMARQUE
(POUR MODÈLE CANADIEN SEULEMENT)
Les symboles de fusible (fusible de type rapide) et/ou (fusible de type lent) sur CCI indiquent que les pièces de remplacement doivent avoir la même désignation.

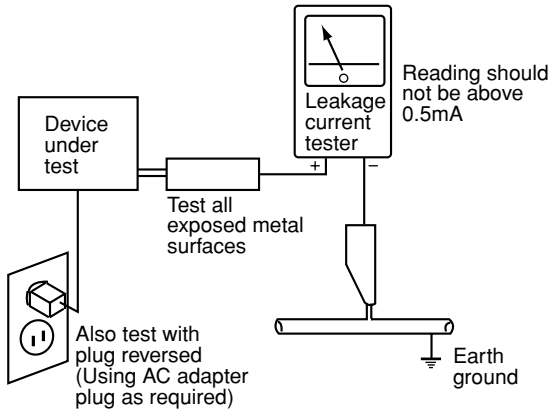
(FOR USA MODEL ONLY)

1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5mA.


Reading should not be above 0.5mA
Leakage current tester
+
–
Device under test
Test all exposed metal surfaces
Also test with plug reversed (Using AC adapter plug as required)
Earth ground

AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.

The use of a substitute replacement component which does not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

[Important symbols for good services]
In this manual, the symbols shown-below indicate that adjustments, settings or cleaning should be made securely.
When you find the procedures bearing any of the symbols, be sure to fulfill them:

1. Product safety

You should conform to the regulations governing the product (safety, radio and noise, and other regulations), and should keep the safety during servicing by following the safety instructions described in this manual.

2. Adjustments

To keep the original performances of the product, optimum adjustments or specification confirmation is indispensable. In accordance with the procedures or instructions described in this manual, adjustments should be performed.

3. Cleaning

For optical pickups, tape-deck heads, lenses and mirrors used in projection monitors, and other parts requiring cleaning, proper cleaning should be performed to restore their performances.

4. Shipping mode and shipping screws

To protect the product from damages or failures that may be caused during transit, the shipping mode should be set or the shipping screws should be installed before shipping out in accordance with this manual, if necessary.

5. Lubricants, glues, and replacement parts

Appropriately applying grease or glue can maintain the product performances. But improper lubrication or applying glue may lead to failures or troubles in the product. By following the instructions in this manual, be sure to apply the prescribed grease or glue to proper portions by the appropriate amount.For replacement parts or tools, the prescribed ones should be used.

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1. SPECIFICATIONS

Amplifier Section

Continuous average power output of 100 watts* per channel, min., at 8 ohms, from 20 Hz to 20,000 Hz with no more than 0.2 %** total harmonic distortion (front).

Continuous Power Output
Front ..... 100 W per channel (1kHz, 1.0 %, 8 Ω)
Center ..... 100 W (1kHz, 1.0 %, 8 Ω)
Surround ..... 100 W per channel (1kHz, 1.0 %, 8 Ω)
Surround Back ..... 100 W per channel (1kHz, 1.0 %, 8 Ω)

Input (Sensitivity/Impedance)
CD, VCR/DVR, CD-R/TAPE/MD, DVD/LD, TV/SAT ... 200 mV/47 kΩ

Frequency Response
CD, VCR/DVR, CD-R/TAPE/MD, DVD/LD,TV/SAT
..... 5 Hz to 100,000 Hz $^{+0}_{-3}$dB

Output (Level/Impedance)
VCR/DVR REC, CD-R/TAPE/MD REC ..... 200 mV/2.2 kΩ

Tone Control
BASS ..... ± 6 dB (100 Hz)
TREBLE ..... ± 6 dB (10 kHz)
LOUDNESS ..... +9 dB/+9 dB (100 Hz/10 kHz)

Signal-to-Noise Ratio (IHF, short circuited, A network)
CD, VCR/DVR, CD-R/TAPE/MD,DVD/LD, TV/SAT ..... 96 dB

Signal-to Noise Ratio [EIA, at 1 W (1 kHz)]
CD, VCR/DVR, CD-R/TAPE/MD,DVD/LD, TV/SAT ..... 79 dB

Video Section

Input (Sensitivity/Impedance)
VCR/DVR, DVD/LD, TV/SAT ..... 1 Vp-p/75 Ω

Output (Level/Impedance)
VCR/DVR ..... 1 Vp-p/75 Ω

Frequency Response
VCR/DVR, DVD/LD,TV/SAT ⇨ MONITOR ..... 5 Hz to 7 MHz $^{+0}_{-3}$dB
Signal-to-Noise Ratio ..... 55 dB
Cross Talk ..... 55 dB

Manufactured under license from Dolby Laboratories. "Dolby", "Pro Logic II" and the double D symbol 2 are trademarks of Dolby Laboratorories.

"DTS" ,"ES" and "DTS Digital Surround" are trademarks of Digital Theater Systems, Inc.

FM Tuner Section

Frequency Range ..... 87.5 MHz to 108 MHz
Usable Sensitivity ..... Mono:13.2 dBf, IHF (1.3 μV/ 75 Ω)
50 dB Quieting Sensitivity ..... Mono: 20.2 dB
Stereo: 38.6 dBf
Signal-to-Noise Ratio ..... Mono: 73 dB (at 85 dBf)
Stereo: 70 dB (at 85 dBf)
Distortion ..... Stereo: 0.5 % (1 kHz)
Alternate Channel Selectivity ..... 60 dB (400 kHz)
Stereo Separation ..... 40 dB (1 kHz)
Frequency Response ..... 30 Hz to 15 kHz (±1 dB)
Antenna Input (DIN) ..... 75 Ω unbalanced

AM Tuner Section

Frequency Range ..... 530 kHz to 1,700 kHz
Sensitivity (IHF, Loop antenna) ..... 350 μV/m
Selectivity ..... 25 dB
Signal-to-Noise Ratio ..... 50 dB
Antenna ..... Loop antenna

Miscellaneous

Power Requirements ..... AC 120 V, 60Hz
Power Consumption
VSX-D511 ..... 260W (KU)
..... 340VA (KC)
In Standby ..... 1 W
AC Outlet ..... 100 W MAX. (SWITCHED)
Dimensions ..... 420 (W) x 158 (H) x 393 (D) mm
(16-9/16 (W) x 6-4/16 (H) x 15-8/16 (D) in.)
Weight (without package)
VSX-D511 ..... 9.0 kg
(19.8 lb)

Furnished Parts
AM loop antenna 1
FM wire antenna 1
Dry cell batteries (AA size IEC R6P) 2
Remote control 1
Operating instructions 1

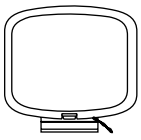
Note

Specifications and the design are subject to possible modifications without notice, due to improvements.

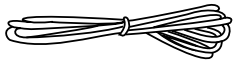
* Measured pursuant to the Federal Trade Commission's Trade Regulation rule on Power Output Claims for Amplifiers.

** Measured by Audio Spectrum Analyzer.

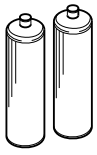
Accessories



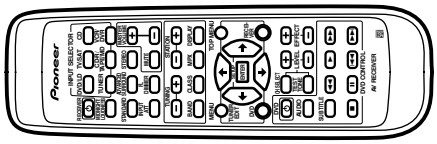
AM loop antenna
(ATB7009)



FM wire antenna
(ADH7004)



AA size IEC R6P
Dry cell batteries (x2)

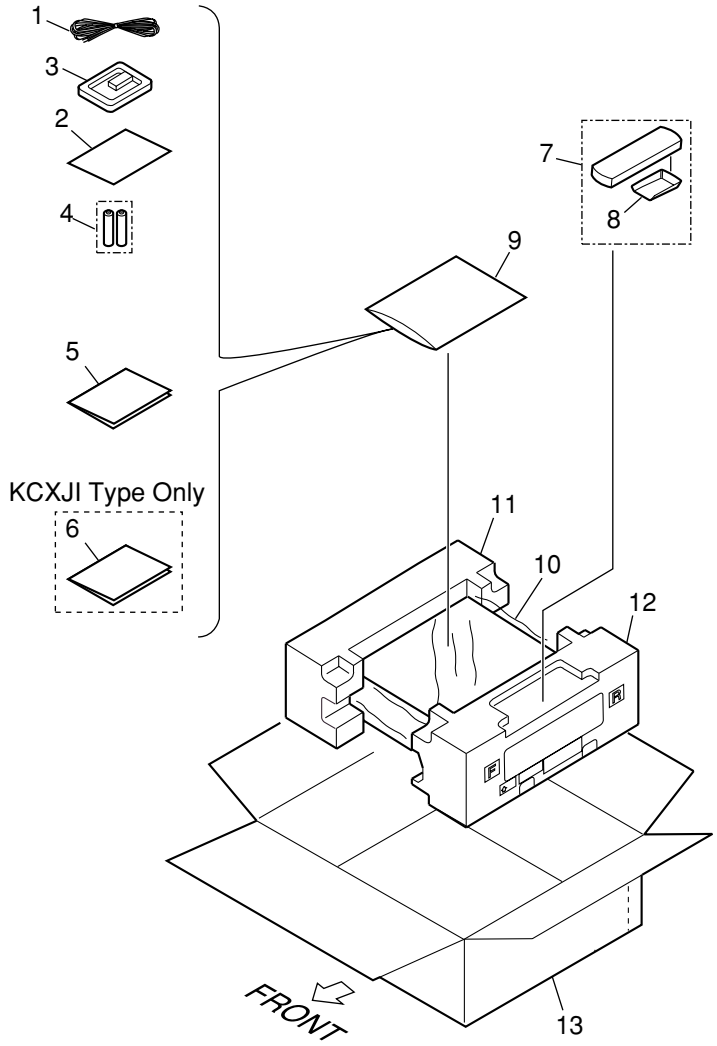


Remote control unit
(XXD3038)

2. EXPLODED VIEWS AND PARTS LIST

NOTES : • Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
• The ⚠ mark found on some component parts indicates the importance of the safety factor of the part.
• Therefore, when replacing, be sure to use parts of identical designation.
• Screw adjacent to ▼ mark on the product are used for disassembly.

2.1 PACKING



PACKING partsList

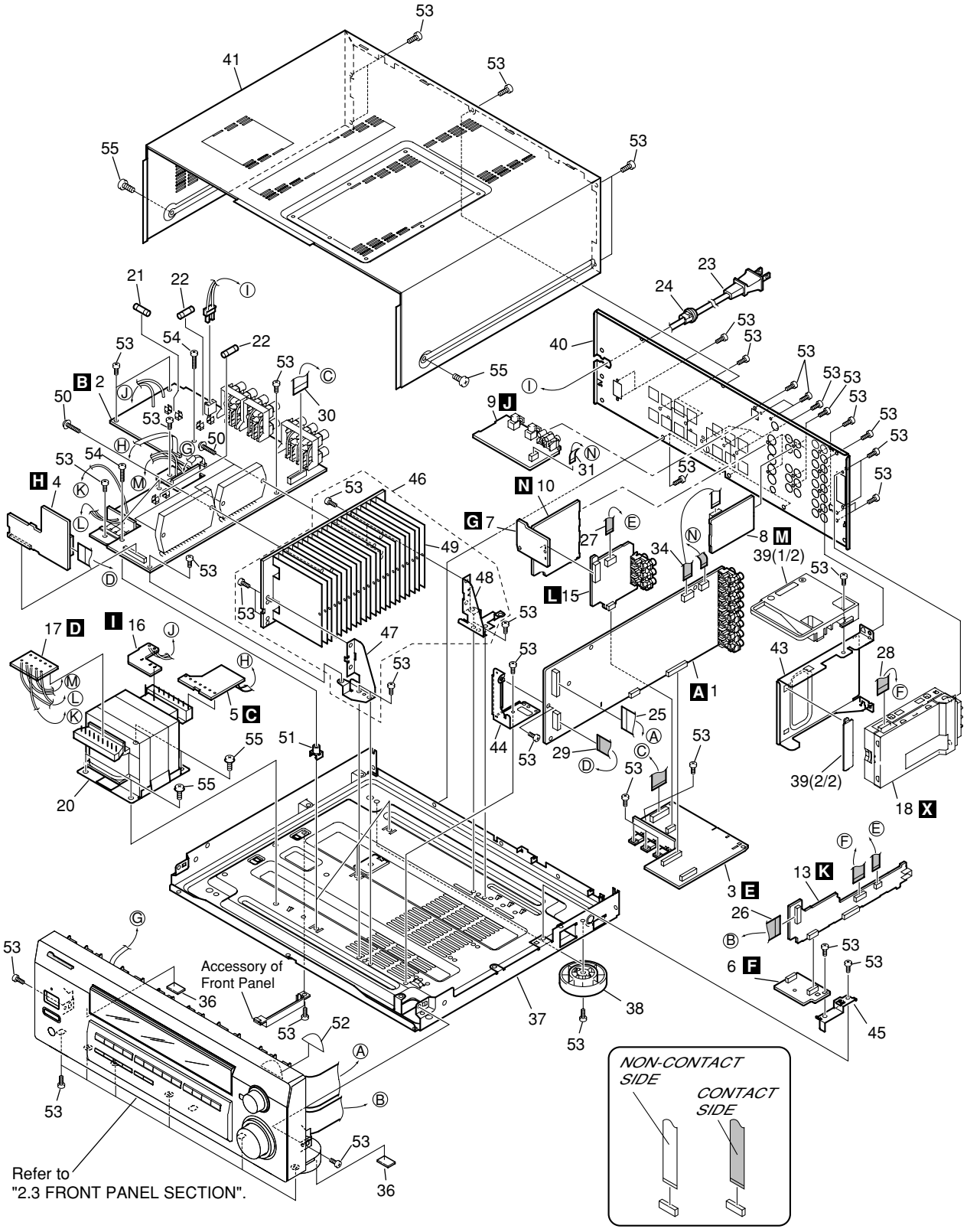
Mark	No.	Description	Part No.
	1	FM wire antenna	ADH7004
	2	Warranty Card	ARY7045
	3	AM loop antenna	ATB7009
	4	Dry cell batteries (AA/R6P)	VEM-013
	5	Operating instructions (English)	XRB3011
	6	Operating instructions (French)	See Contrast table(2)
	7	Remote Control Unit	XXD3038
	8	Battery Cover	AZA7378
	9	Polyethylene Bag	Z21-038
	10	Packing Sheet	AHG7069
	11	Left Pad R5	XHA3032
	12	Right Pad R5	XHA3033
	13	Packing Case	XHD3200

(2) CONTRAST TABLE

VSX-D511/KUXJI and KCXJI are constructed the same except for the following :

Mark	NO	Symbol and Description	VSX-D511/KUXJI	VSX-D511/KCXJI
	6	Operating Instructions (French)	Not used	XRC3053

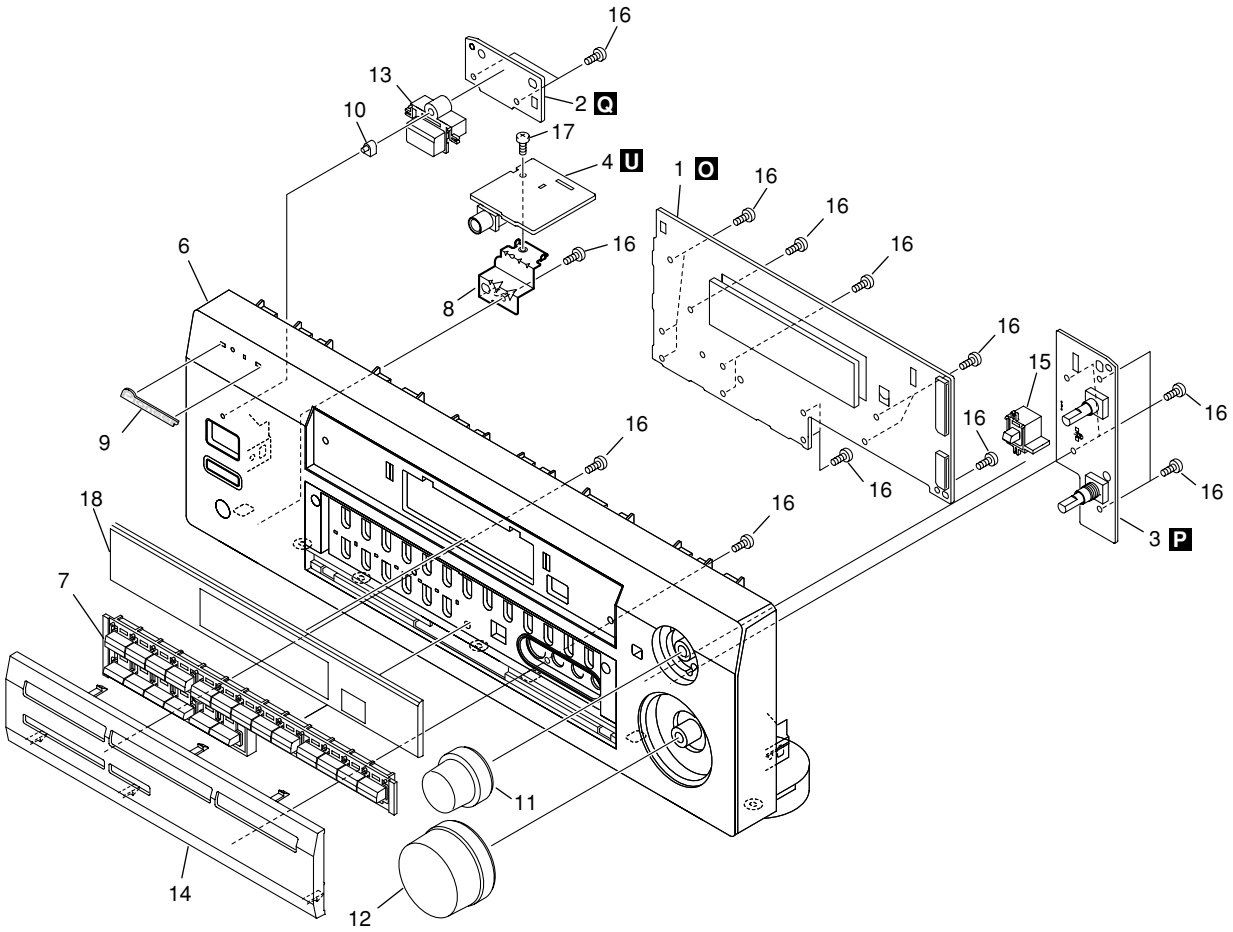
2.2 EXTERIOR SECTION



EXTERIOR SECTION partsList

Mark	No.	Description	Part No.
	1	D.D & INPUT ASSY	XWX3044
	2	AMP ASSY	XWZ3532
	3	REGULATOR ASSY	XWZ3544
	4	AMP INPUT ASSY	XWZ3547
	5	TRANS2 ASSY	XWZ3555
	6	HASHIGETA ASSY	XWZ3566
	7	BOARD TO BOARD ASSY	XWZ3527
	8	6CH IN ASSY	XWZ3507
	9	DIGITAL IN ASSY	XWZ3517
	10	S. VIDEO ASSY	XWZ3521
	11	• • • • •	
	12	• • • • •	
	13	KAWA ASSY	XWZ3529
	14	• • • • •	
	15	VIDEO ASSY	XWZ3490
	16	TRANS1 ASSY	XWZ3552
	17	TRANS3 ASSY	XWZ3560
	18	FM/AM TUNER MODULE	AXQ7231
	19	• • • • •	
⚠	20	Power Transformer (T1)	XTS3058
⚠	21	Fuse (FU2:8A)	REK1086
⚠	22	Fuse (FU1, FU701:10A)	REK1087
⚠	23	AC Power Cord	ADG7024
	24	Cord Stopper	CM-22C
	25	28P F•F•C/30V (J31) DD CN102 - FRONT CN402	XDD3097
	26	17P F•F•C/30V (J32) KAWA CN5001 - FRONT CN401	XDD3098
	27	7P F•F•C/30V (J33) KAWA CN5004 - VIDEO CN503	XDD3099
	28	13P F•F•C/30V (J34) KAWA CN5005 - FM/AM TUNER CN201	XDD3100
	29	19P F•F•C/30V (J35) DD CN106 - AMP INPUT CN254	XDD3101
	30	23P F•F•C/30V (J36) AMP CN53 - REGULATOR CN801	XDD3102
	31	7P F•F•C/30V (J37) DD CN9101 - DIGITAL IN CN1901	XDD3103
	32	• • • • •	
	33	• • • • •	
	34	9P F•F•C/30V (J48) DD CN104 - 6CH IN CN307	XDD3106
	35	• • • • •	
	36	Rubber Sheet	AEB1111
	37	Under Base 409	ANA7094
	38	Insulator	AMR7198
	39	FFC Cover R5	XMR3047
	40	Rear Panel	XNC3139
	41	Bonnet D510	XZN3112
	42	• • • • •	
	43	Tuner Shield R5	XNG3072
	44	PCB Angle R5	XNG3073
	45	Reg Support R5	XNG3074
	46	Heat Sink Assy 0.4*40	ANH7112
	47	Heat Sink Angle F	ANG7251
	48	Heat Sink Angle R	ANG7252
	49	Heat Sink	ANH7109
	50	Screw 3x23	ABA7043
	51	PCB Mold	AMR2533
	52	Energy Star Label	AAX7876
	53	Screw	BBZ30P080FMC
	54	Screw	BBZ30P200FMC
	55	Screw	FBT40P080FZK

2.3 FRONT PANEL SECTION

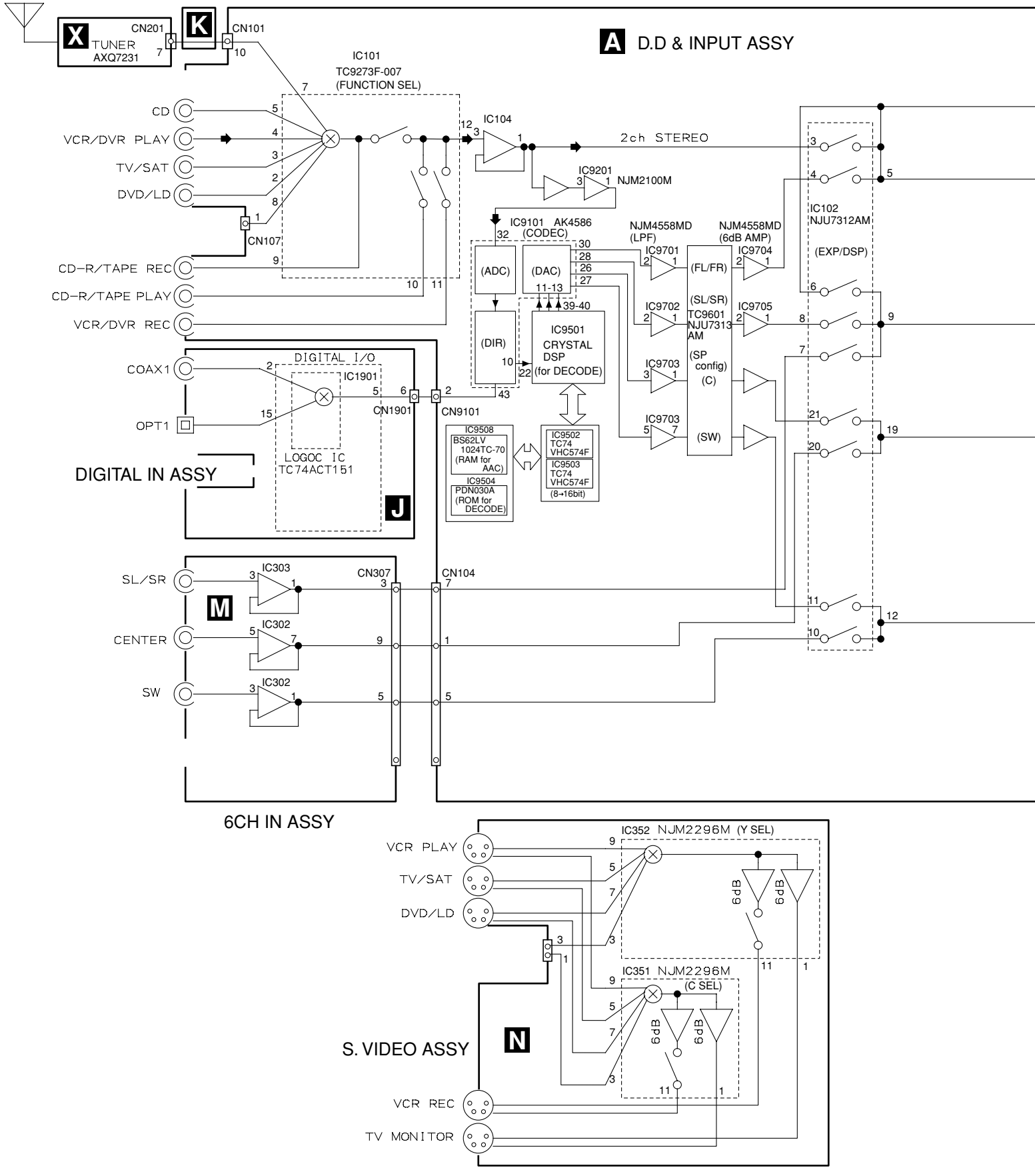


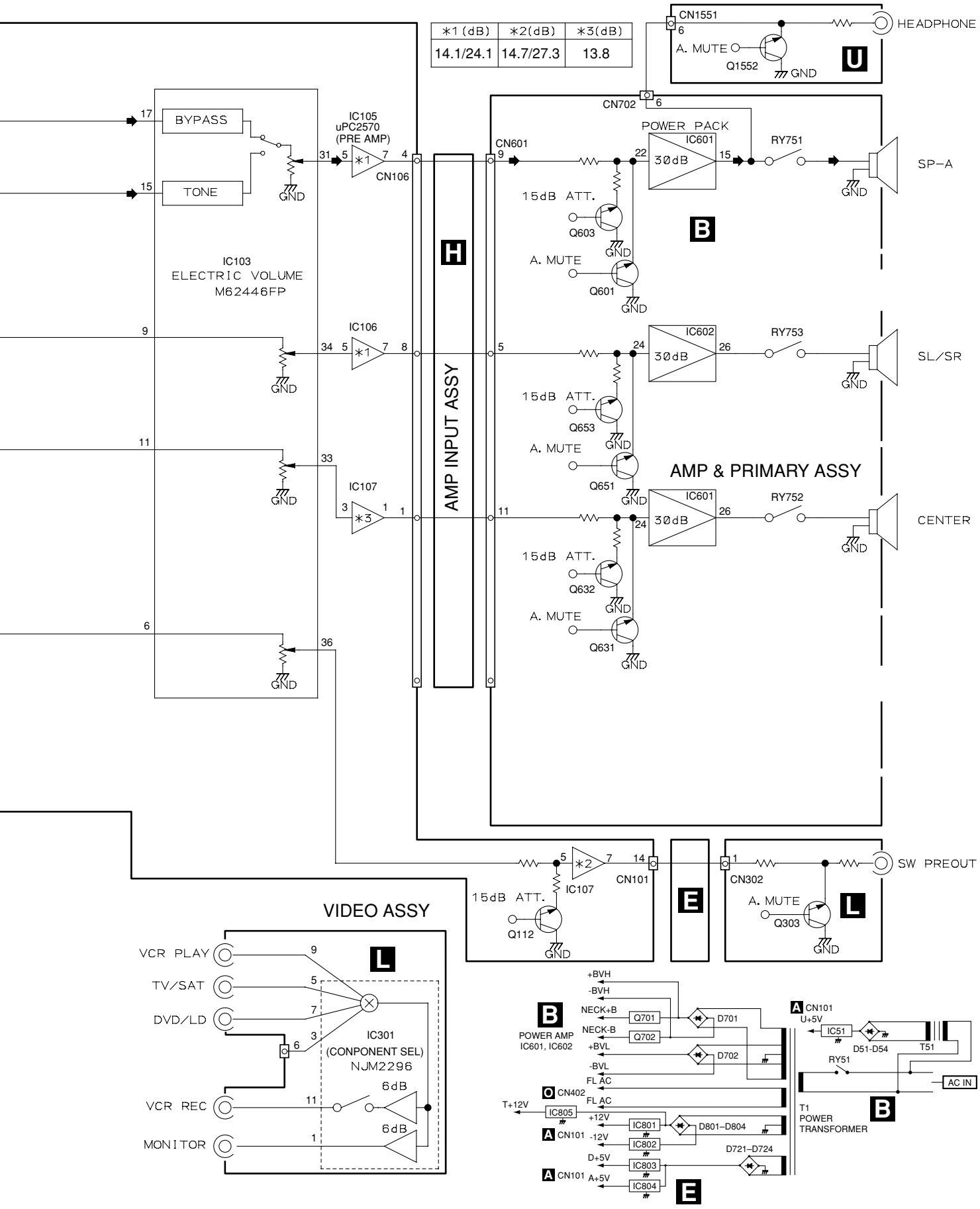
FRONT PANEL SECTION partsList

Mark	No.	Description	Part No.
	1	FRONT ASSY	XWZ3492
	2	POWER SW ASSY	XWZ3510
	3	H.P. ASSY	XWZ3513
	4	R. ENCODER ASSY	XWZ3511
	5	• • • • •	
	6	Front Panel	XMB3060
	7	Sub Button	XAD3125
	8	Earth Plate R5 HP	XNG3066
	9	Pioneer Badge B	XAM3006
	10	Led Lens	XAK3308
	11	Select Knob R5BH	XAB3023
	12	Volume Knob R5BH	XAB3025
	13	Power Button R5B	XAD3123
	14	Sub Panel	XAK3272
	15	Jog Button R5B	XAD3124
	16	Screw	PPZ30P080FMC
	17	Screw	BBZ30P080FMC
	18	D Panel R5 W	XAK3274

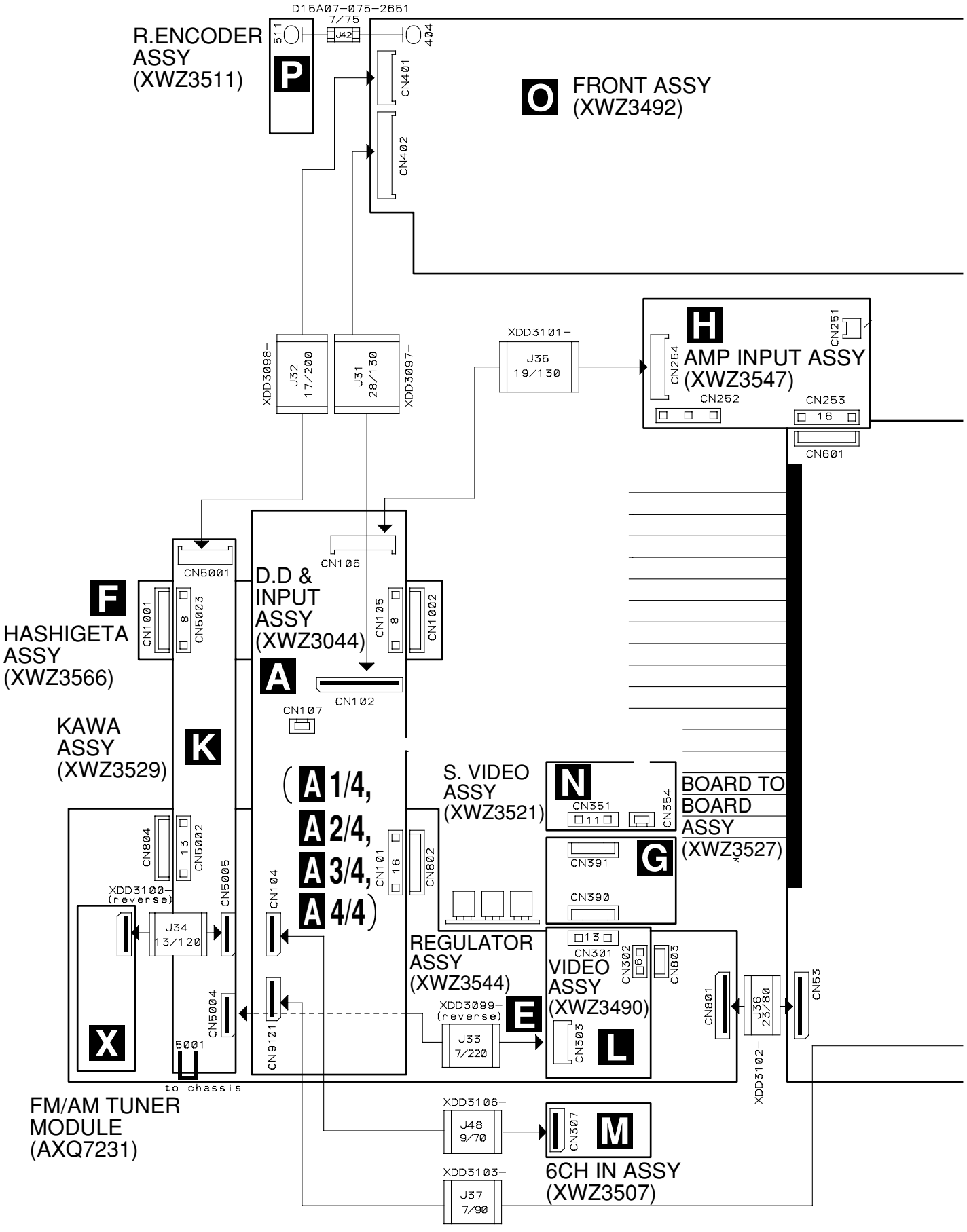
3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

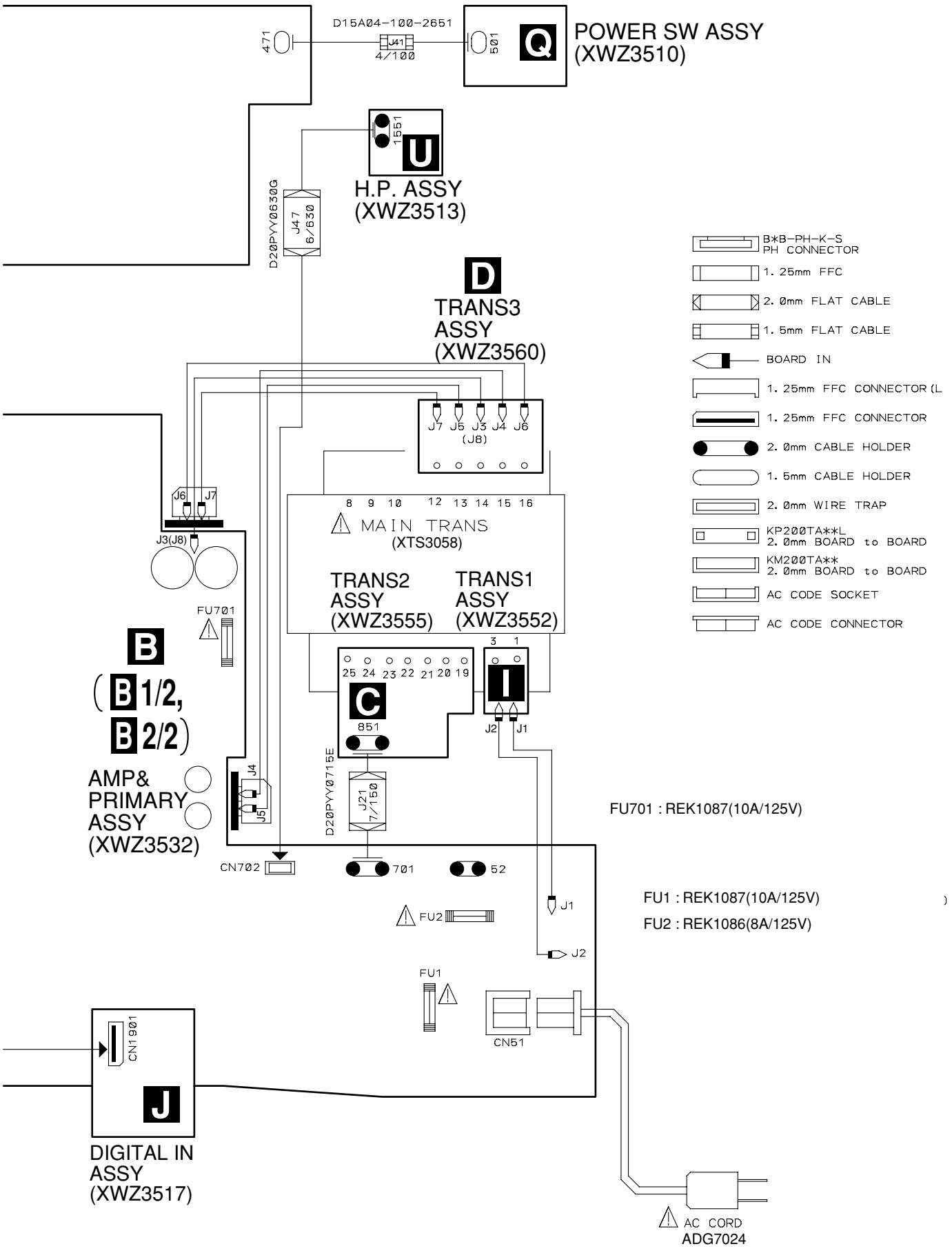
3.1 BLOCK DIAGRAM



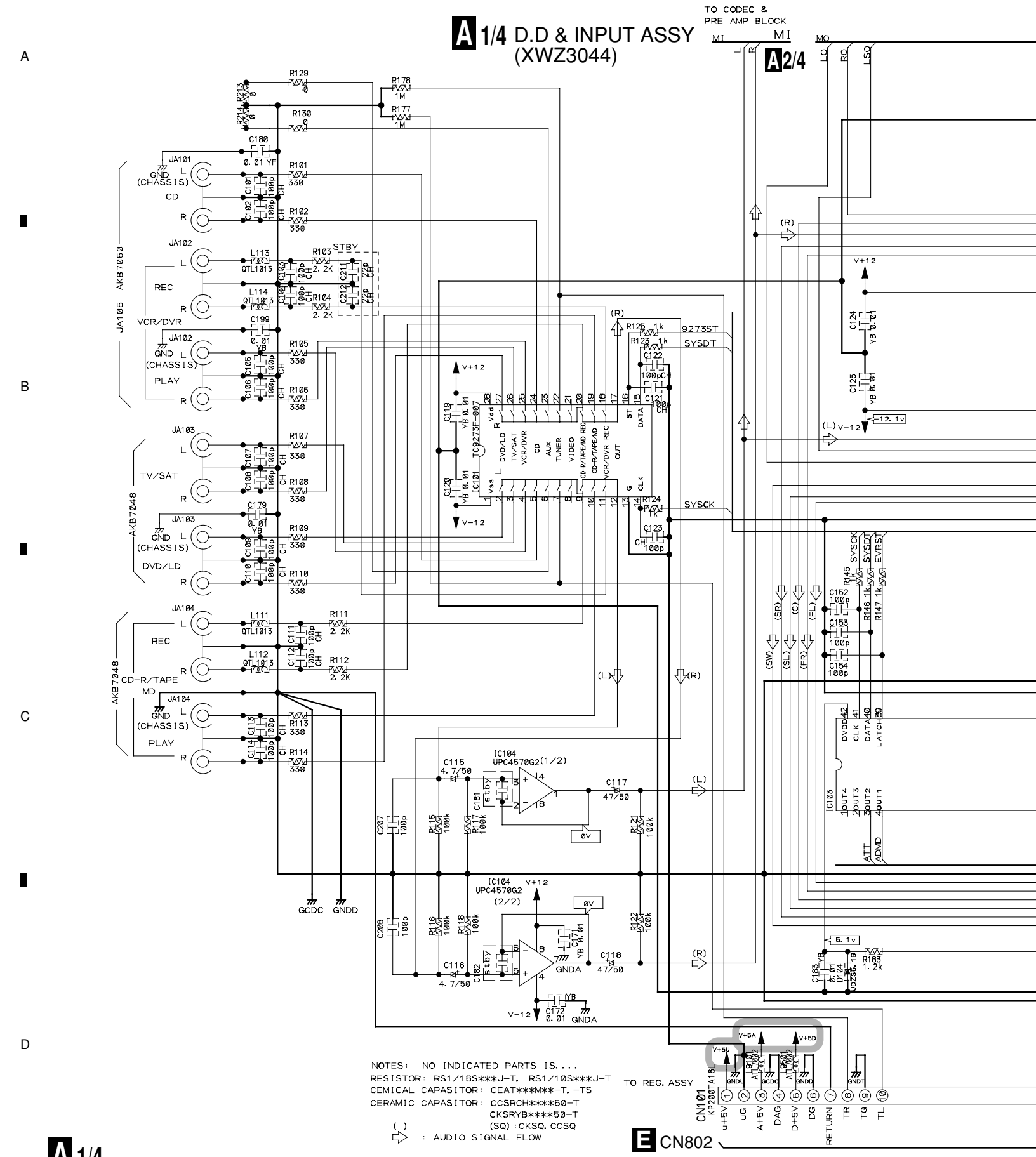

∗1 (dB) ∗2(dB) ∗3(dB)
14.1/24.1 14.7/27.3 13.8
CN1551
HEADPHONE
A. MUTE
Q1552
GND
U
CN702
POWER PACK
IC601
30dB
RY751
SP-A
BYPASS
TONE
IC105
uPC2570
(PRE AMP)
CN106
CN601
15dB ATT.
Q603
A. MUTE
Q601
B
H
IC103
ELECTRIC VOLUME
M62446FP
IC106
IC602
RY753
SL/SR
Q653
Q651
AMP & PRIMARY ASSY
IC107
RY752
CENTER
Q632
Q631
AMP INPUT ASSY
CN101
IC107
Q112
E
CN302
Q303
L
SW PREOUT
VIDEO ASSY
VCR PLAY
TV/SAT
DVD/LD
VCR REC
MONITOR
IC301
(CONPONENT SEL)
NJM2296
6dB
+BVH
-BVH
NECK+B
NECK-B
+BVL
-BVL
FL AC
Q701
Q702
D701
D702
POWER AMP
IC601, IC602
CN402
T+12V
IC805
+12V
-12V
D+5V
A+5V
IC801
IC802
IC803
IC804
D801–D804
D721–D724
CN101
U+5V
IC51
D51-D54
T51
RY51
AC IN
T1
POWER
TRANSFORMER

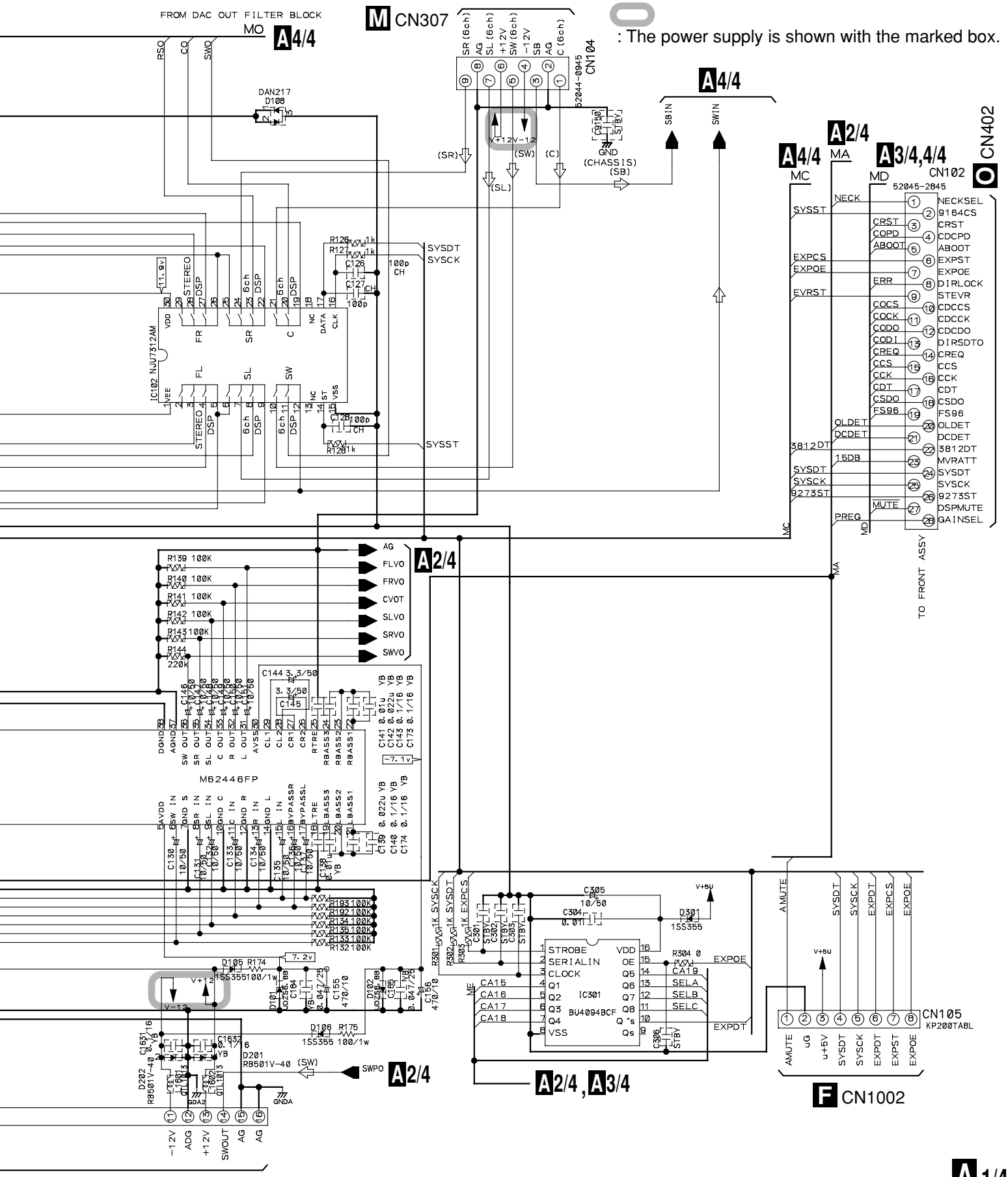
3.2 OVERALL WIRING CONNECTION DIAGRAM



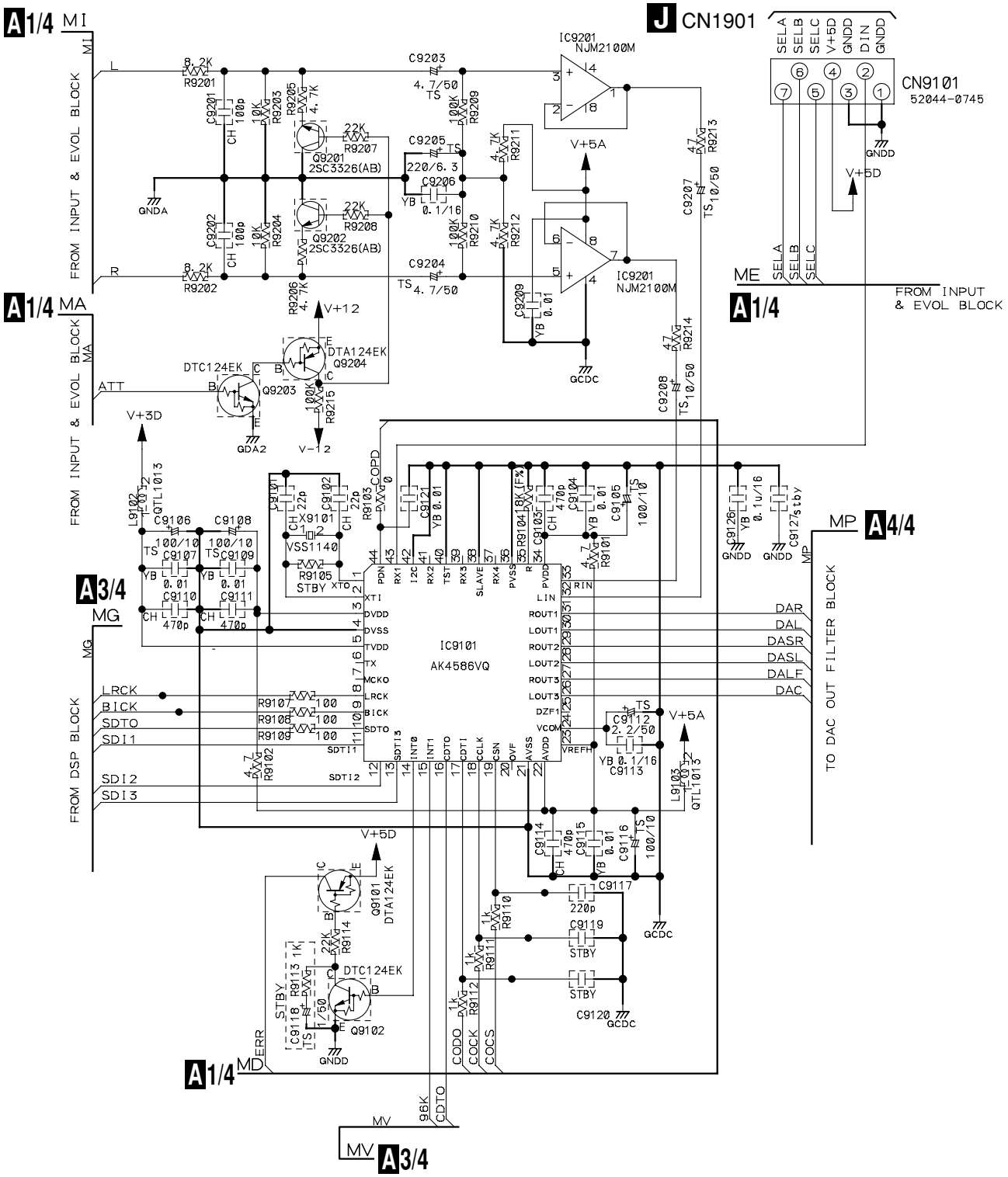

POWER SW ASSY
(XWZ3510)
Q
D15A04-100-2651
J41
4/100
471
501
H.P. ASSY
(XWZ3513)
U
1551
D20PYY0630G
J47
6/630
D
TRANS3
ASSY
(XWZ3560)
J7 J5 J3 J4 J6
(J8)
8 9 10 12 13 14 15 16
MAIN TRANS
(XTS3058)
TRANS2
ASSY
(XWZ3555)
TRANS1
ASSY
(XWZ3552)
J6 J7
J3(J8)
FU701
B
(B 1/2,
B 2/2)
AMP&
PRIMARY
ASSY
(XWZ3532)
25 24 23 22 21 20 19
C
851
3 1
I
J2 J1
J4
J5
D20PYY0715E
J21
7/150
CN702
701
52
FU2
J1
J2
FU1
CN51
CN1901
J
DIGITAL IN
ASSY
(XWZ3517)
AC CORD
ADG7024
B*B-PH-K-S
PH CONNECTOR
1. 25mm FFC
2. 0mm FLAT CABLE
1. 5mm FLAT CABLE
BOARD IN
1. 25mm FFC CONNECTOR (L
1. 25mm FFC CONNECTOR
2. 0mm CABLE HOLDER
1. 5mm CABLE HOLDER
2. 0mm WIRE TRAP
KP200TA**L
2. 0mm BOARD to BOARD
KM200TA**
2. 0mm BOARD to BOARD
AC CODE SOCKET
AC CODE CONNECTOR
FU701 : REK1087(10A/125V)
FU1 : REK1087(10A/125V)
FU2 : REK1086(8A/125V)

3.3 D.D & INPUT(1/4) ASSY



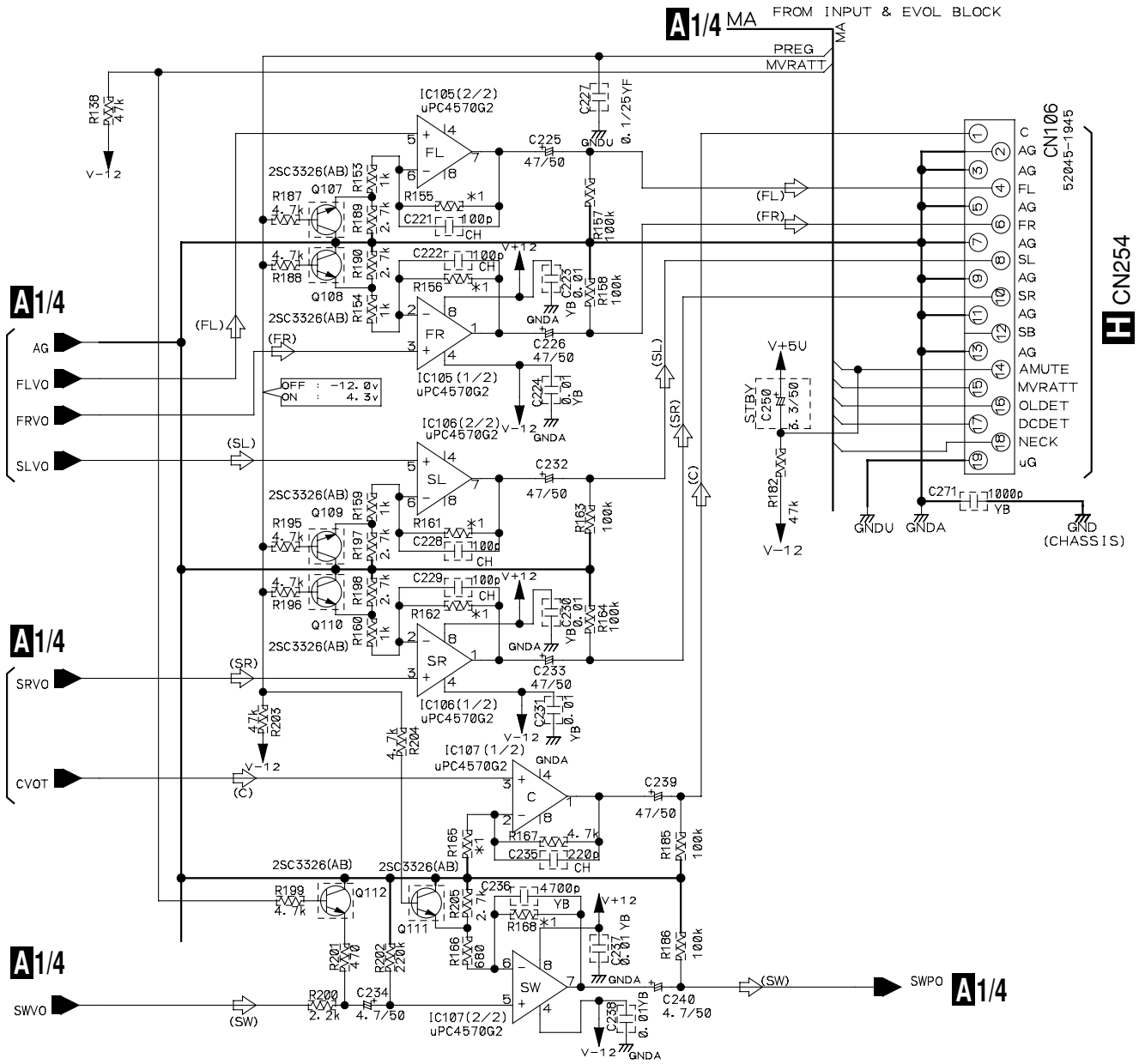

: The power supply is shown with the marked box.
FROM DAC OUT FILTER BLOCK
MO
A4/4
M CN307
CN104
52044-0945
SR (6ch)
AG
SL (6ch)
+12V
SW (6ch)
-12V
SB
AG
C (6ch)
DAN217
D108
V+12
V-12
(SR)
(SW)
(C)
(SL)
GND
(CHASSIS)
(SB)
SBIN
SWIN
A4/4
A2/4
MA
A4/4
MC
A3/4,4/4
MD
O CN402
CN102
52045-2845
NECK
SYSST
CRST
COPD
ABOOT
EXPCS
EXPOE
ERR
EVRST
COCS
COCK
CODO
CODI
CREQ
CCS
CCK
CDT
CSDO
FS96
OLDET
DCDET
3812DT
15DB
SYSDT
SYSCK
9273ST
MUTE
PREG
NECKSEL
9164CS
CRST
CDCPD
ABOOT
EXPST
EXPOE
DIRLOCK
STEVR
CDCCS
CDCCK
CDCDO
DIRSDTO
CREQ
CCS
CCK
CDT
CSDO
FS96
OLDET
DCDET
3812DT
MVRATT
SYSDT
SYSCK
9273ST
DSPMUTE
GAINSEL
TO FRONT ASSY
IC102 NJU7312AM
STEREO DSP
6ch DSP
SYSDT
SYSCK
SYSST
R126 1k
R127 1k
C126 100p CH
C127 100p CH
C128 100p CH
R128 1k
AG
FLVO
FRVO
CVOT
SLVO
SRVO
SWVO
R139 100K
R140 100K
R141 100K
R142 100K
R143 100K
R144 220k
M62446FP
C144 3.3/50
C145 3.3/50
-7.1v
C130 10/50
C131 10/50
C133 10/50
C134 10/50
C135 10/50
C136 10/50
C138 0.022u YB
C139 0.022u YB
C140 0.1/16 YB
C141 0.01u YB
C142 0.022u YB
C143 0.1/16 YB
C173 0.1/16 YB
C174 0.1/16 YB
R193 100K
R192 100K
R134 100K
R135 100K
R133 100K
R132 100K
A2/4
SWPO
D105 R174
1SS355 100/1w
7.2v
V+12
V-12
D101 RD5.6B
D102 RD5.6B
C184 0.047/25 YB
C155 470/10
C156 470/10
D106 R175
1SS355 100/1w
C1631 0.1/16
C1633 0.1/16 YB
D201 RB501V-40 (SW)
D202 RB501V-40
C1601 0.01
C1602 0.01
GDA2
GNDA
-12V
ADG
+12V
SWOUT
AG
AG
R301 1K SYSCK
R302 1K SYSDT
R303 1K EXPCS
C301 STBY
C302 STBY
C303 STBY
C305 10/50
C304 0.01
D301 1SS355
V+5V
IC301 BU4094BCF
STROBE
SERIALIN
CLOCK
Q1
Q2
Q3
Q4
VSS
VDD
OE
Q5
Q6
Q7
Q8
Q's
Qs
CA15
CA16
CA17
CA18
R304 0
CA19
SELA
SELB
SELC
EXPOE
EXPDT
C306 STBY
AMUTE
SYSDT
SYSCK
EXPDT
EXPCS
EXPOE
CN105
KP200TA8L
F CN1002
A1/4

3.4 D.D & INPUT(2/4) ASSY



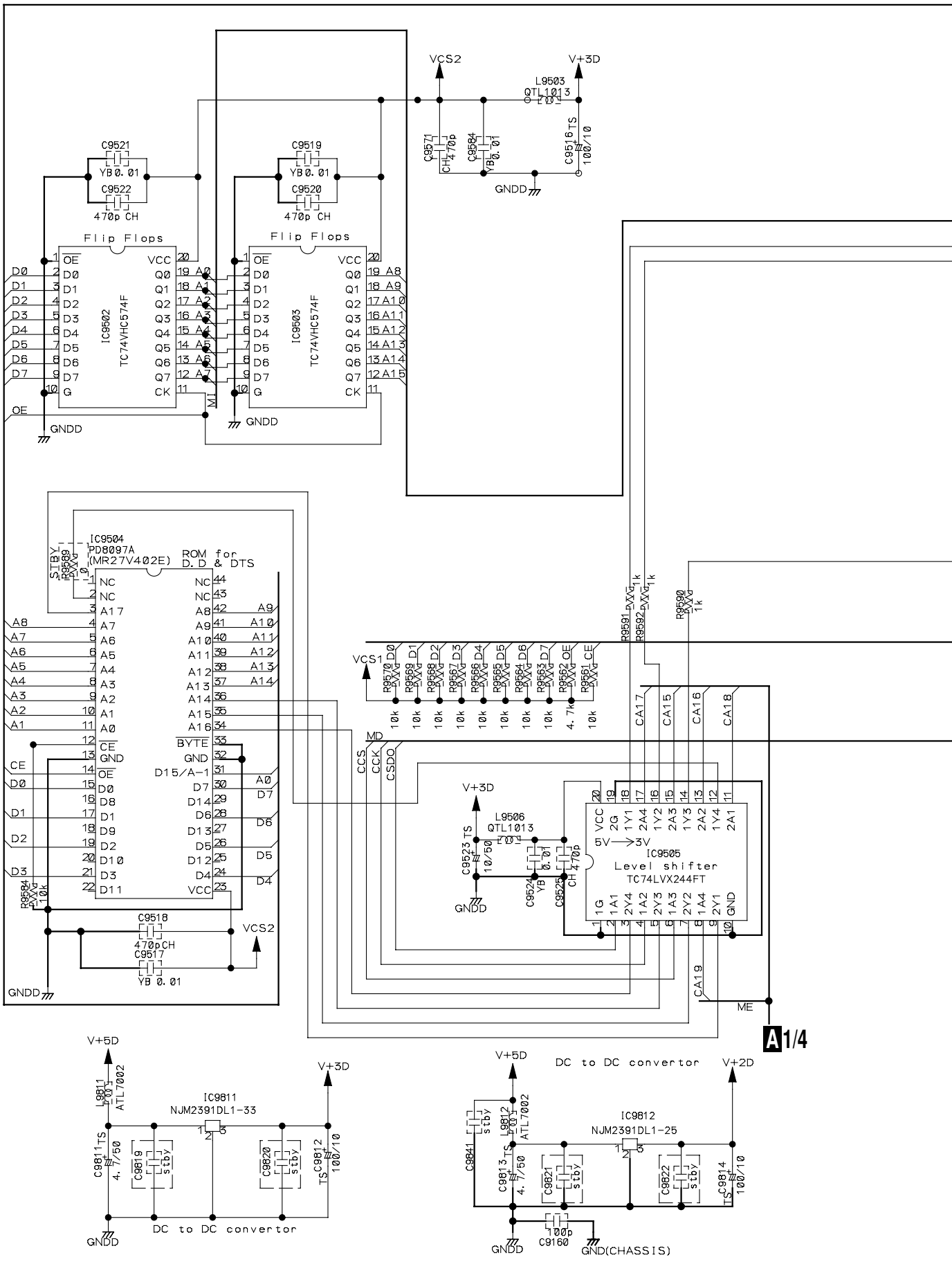
A 2/4 D.D & INPUT ASSY
(XWZ3044)

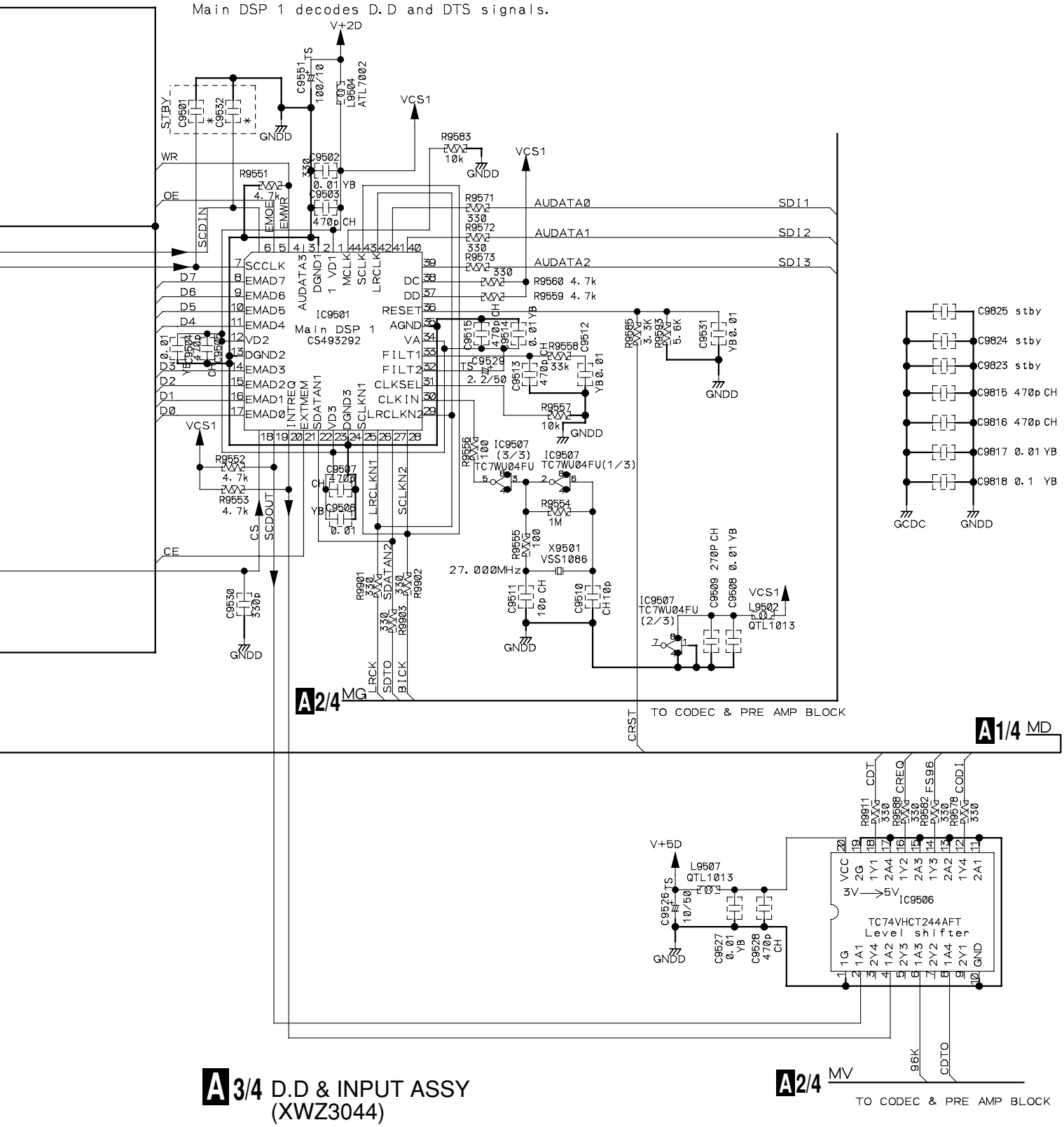
A 2/4



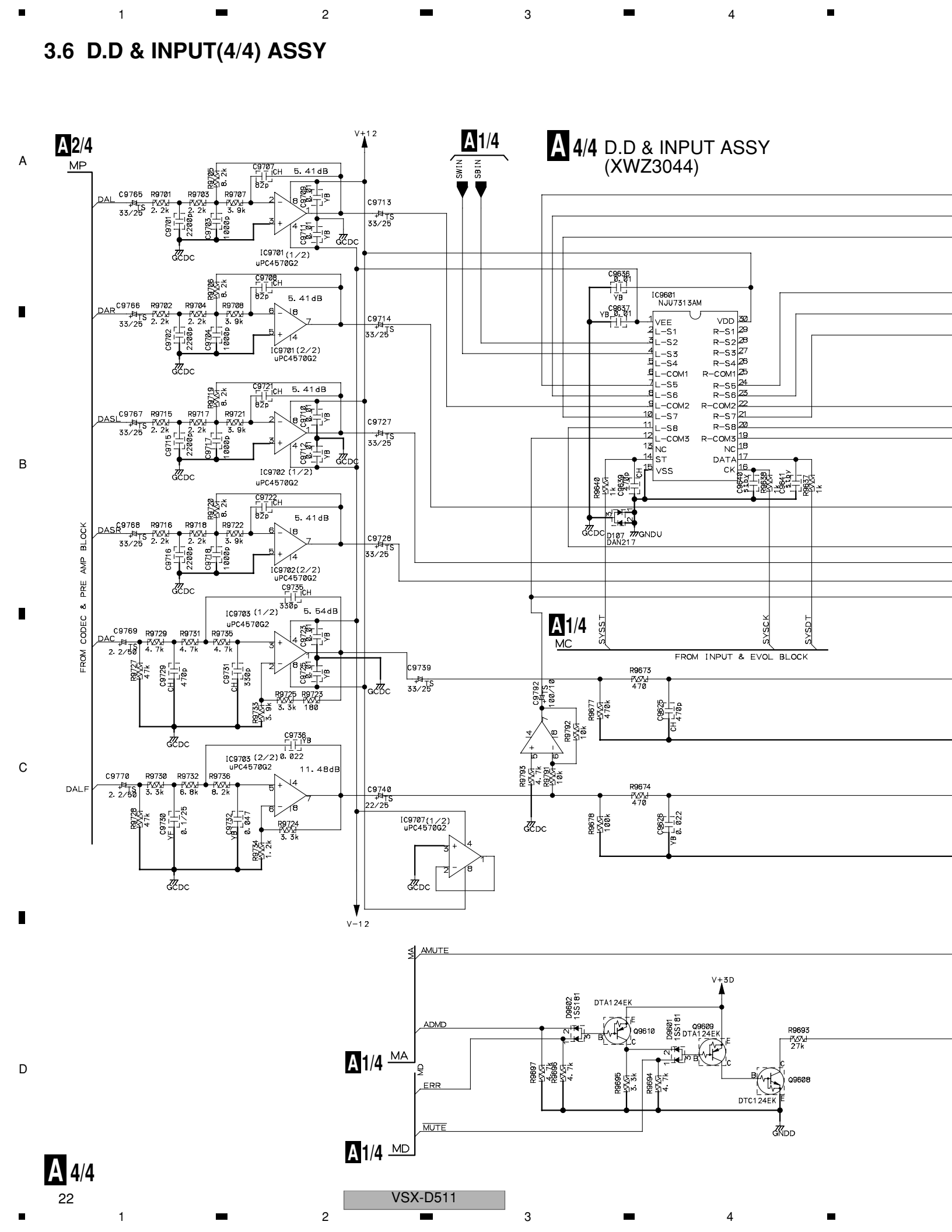
*1	FRONT, SURROUND		SW		CENTER, SB	
	R155 R156 R161 R162 (Ω)	GAIN (dB)	R168 (Ω)	GAIN (dB)	R165 (Ω)	GAIN (dB)
	15k	14.1/24.1	15k	14.7/27.3	1.2k	13.8

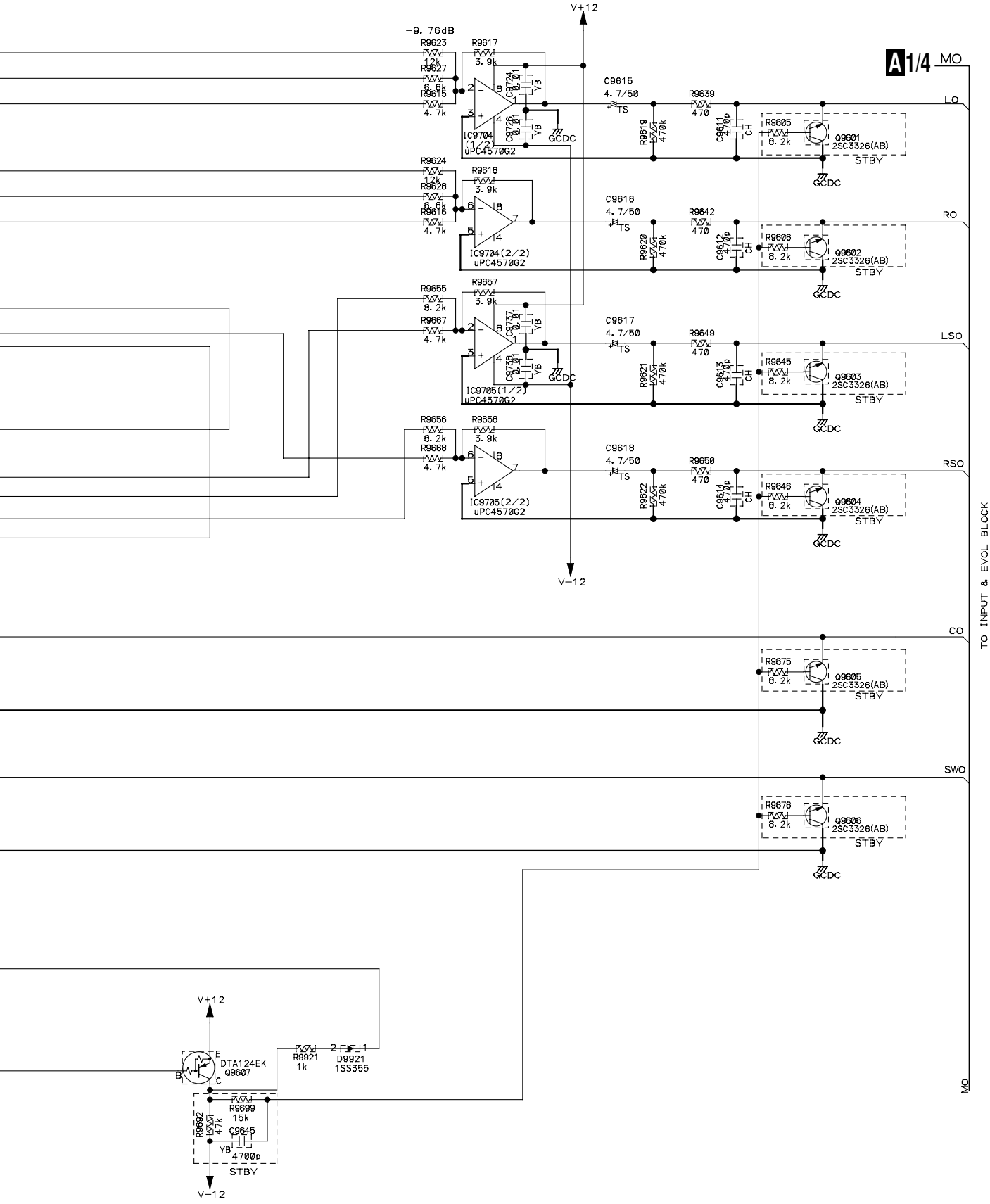
3.5 D.D & INPUT(3/4) ASSY



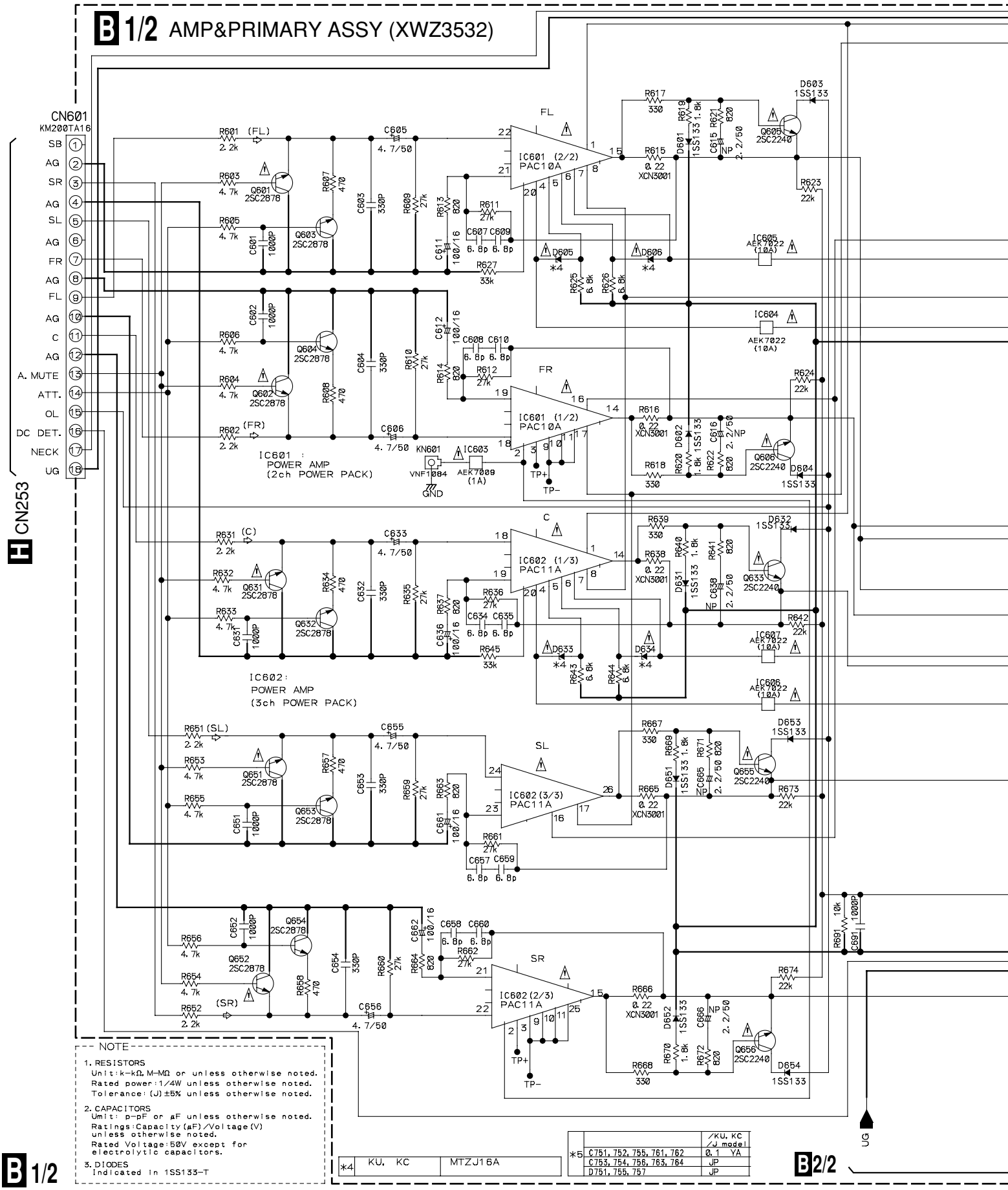

Main DSP 1 decodes D.D and DTS signals.
V+2D
VCS1
GNDD
STBY
WR
OE
SCDIN
IC9501
Main DSP 1
CS493292
SCCLK
EMAD7
EMAD6
EMAD5
EMAD4
VD2
DGND2
EMAD3
EMAD2
EMAD1
EMAD0
AUDATA3
DGND1
VD1
MCLK
SCLK
LRCLK
DC
DD
RESET
AGND
VA
FILT1
FILT2
CLKSEL
CLKIN
LRCLKN2
INTREQ
EXTMEM
SDATAN1
VD3
DGND3
SCLKN1
LRCLKN1
SCLKN2
AUDATA0
AUDATA1
AUDATA2
SDI1
SDI2
SDI3
R9560 4.7k
R9559 4.7k
R9583 10k
R9571 330
R9572 330
R9573 330
R9551 4.7k
R9552 4.7k
R9553 4.7k
R9554 1M
R9555 100
R9556 100
R9557 10k
R9558 33k
IC9507 (3/3) TC7WU04FU
IC9507 TC7WU04FU(1/3)
IC9507 TC7WU04FU (2/3)
X9501
VSS1086
27.000MHz
CE
CS
SCDOUT
LRCK
SDTO
BICK
SDATAN2
R9901 330
R9902 330
R9903 330
A2/4 MG
TO CODEC & PRE AMP BLOCK
CRST
A1/4 MD
C9825 stby
C9824 stby
C9823 stby
C9815 470p CH
C9816 470p CH
C9817 0.01 YB
C9818 0.1 YB
GCDC
V+5D
L9507 QTL1013
L9502 QTL1013
IC9506
TC74VHCT244AFT
Level shifter
3V→5V
VCC
GND
R9911 CDT
R9568 CREQ
R9562 FS96
R9578 CODI
96K
CDTO
A2/4 MV
TO CODEC & PRE AMP BLOCK
A3/4 D.D & INPUT ASSY
(XWZ3044)

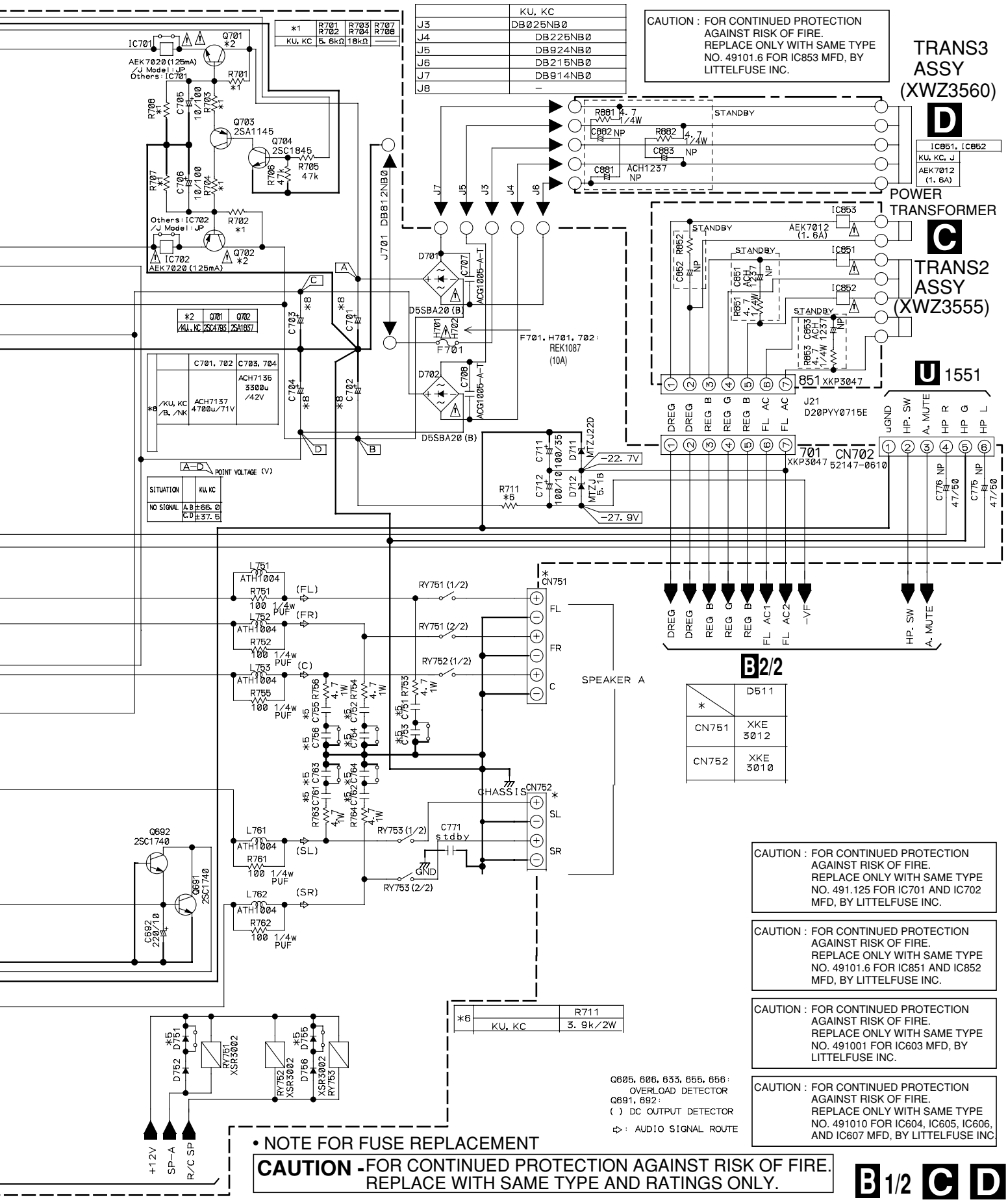
3.6 D.D & INPUT(4/4) ASSY



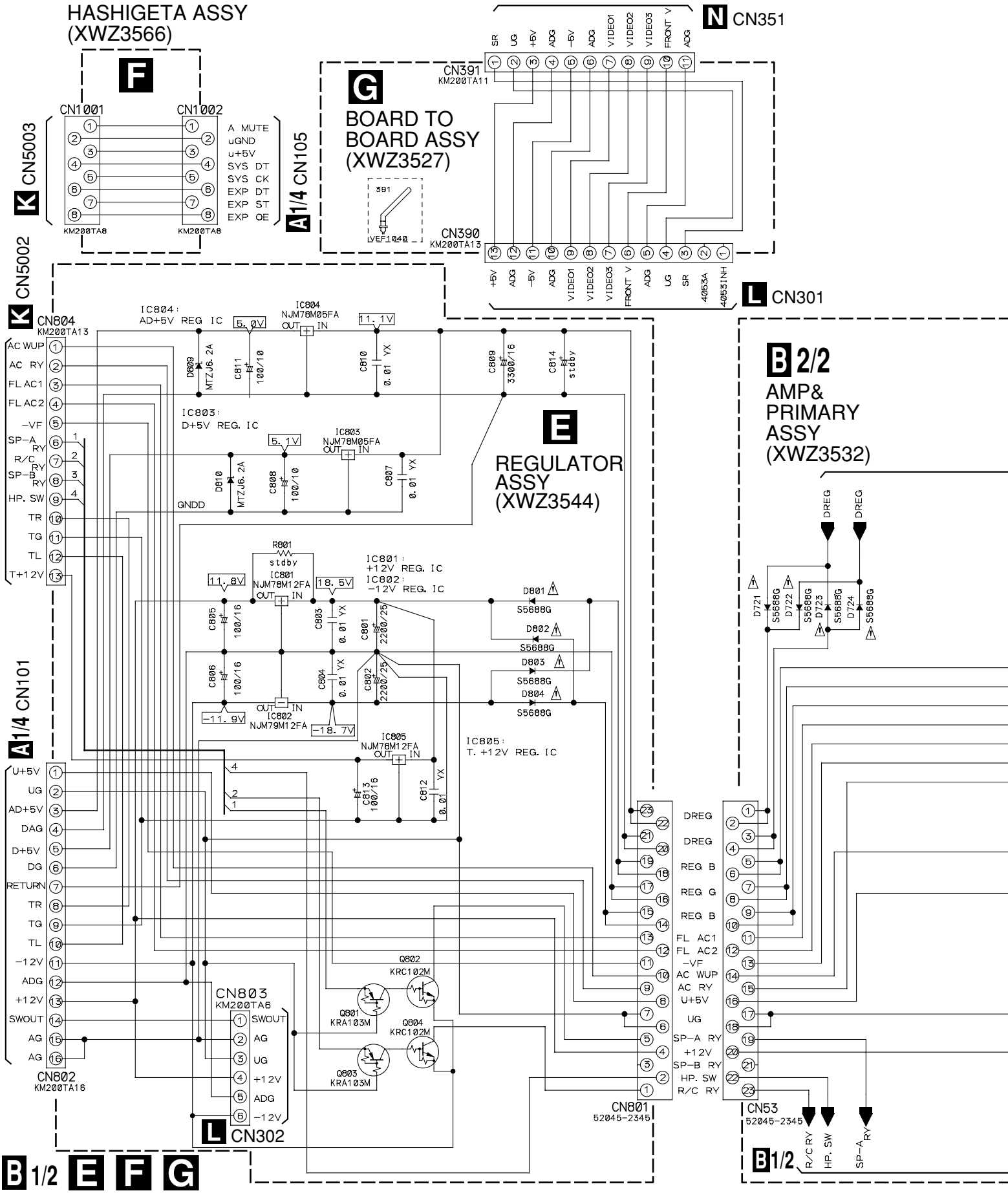

A1/4 MO
V+12
V-12
-9.76dB
R9623 12k
R9627 8.2k
R9615 4.7k
R9617 3.9k
IC9704 (1/2) uPC4570G2
C9724 2200p
C9726 2200p
YB
GCDC
C9615 4.7/50
TS
R9619 470k
R9639 470
C9611 470p
CH
R9605 8.2k
Q9601 2SC3326(AB)
STBY
LO
R9624 12k
R9628 8.2k
R9616 4.7k
R9618 3.9k
IC9704(2/2) uPC4570G2
C9616 4.7/50
R9620 470k
R9642 470
C9612 470p
R9606 8.2k
Q9602 2SC3326(AB)
RO
R9655 8.2k
R9667 4.7k
R9657 3.9k
IC9705(1/2) uPC4570G2
C9737 2200p
C9738 2200p
C9617 4.7/50
R9621 470k
R9649 470
C9613 470p
R9645 8.2k
Q9603 2SC3326(AB)
LSO
R9656 8.2k
R9668 4.7k
R9658 3.9k
IC9705(2/2) uPC4570G2
C9618 4.7/50
R9622 470k
R9650 470
C9614 470p
R9646 8.2k
Q9604 2SC3326(AB)
RSO
CO
R9675 8.2k
Q9605 2SC3326(AB)
SWO
R9676 8.2k
Q9606 2SC3326(AB)
TO INPUT & EVOL BLOCK
MO
DTA124EK Q9607
R9921 1k
D9921 1SS355
R9699 15k
R9692 47k
C9645 4700p

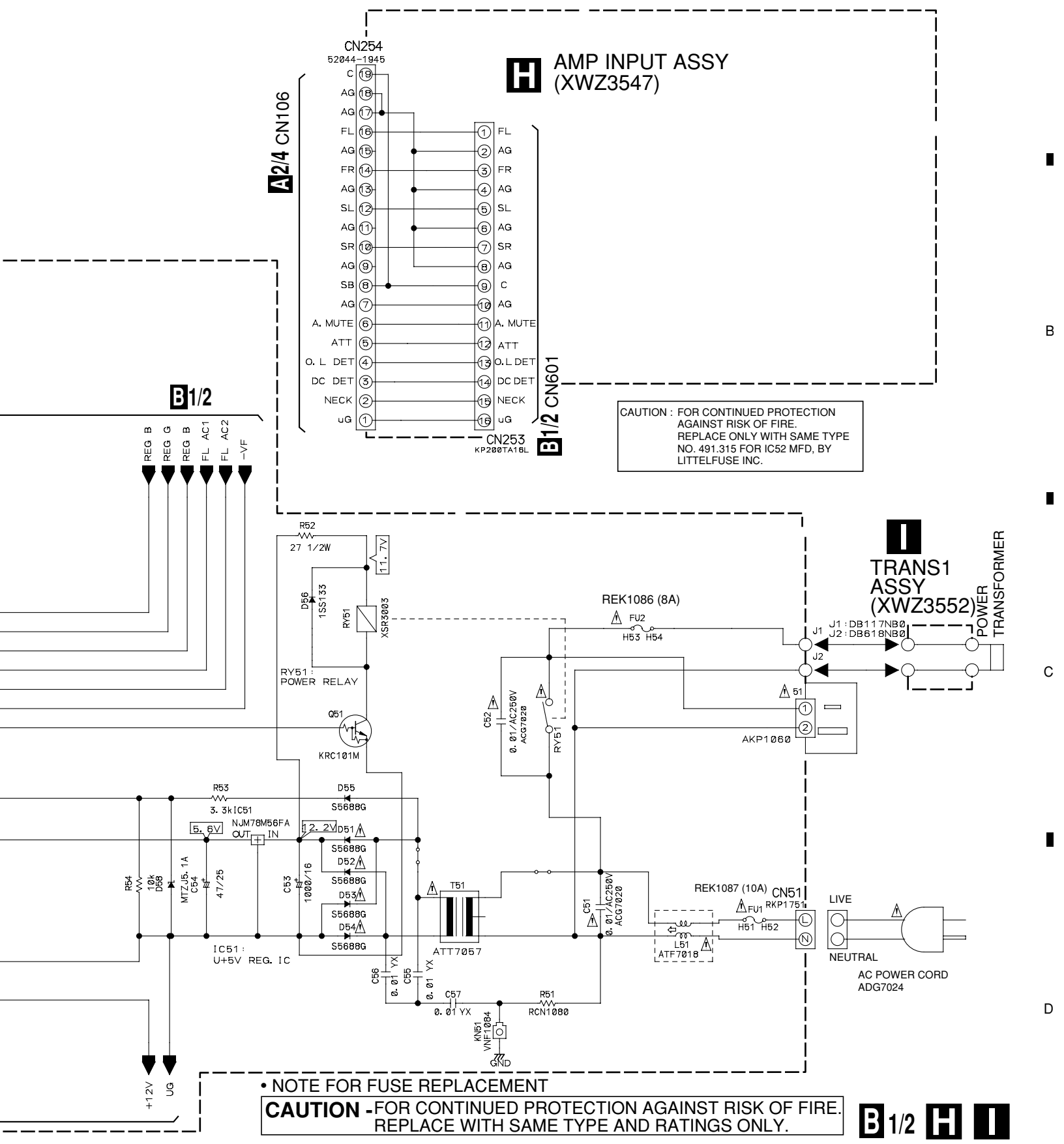
3.7 AMP & PRIMARY(1/2), TRANS2 and TRANS3 ASSYS



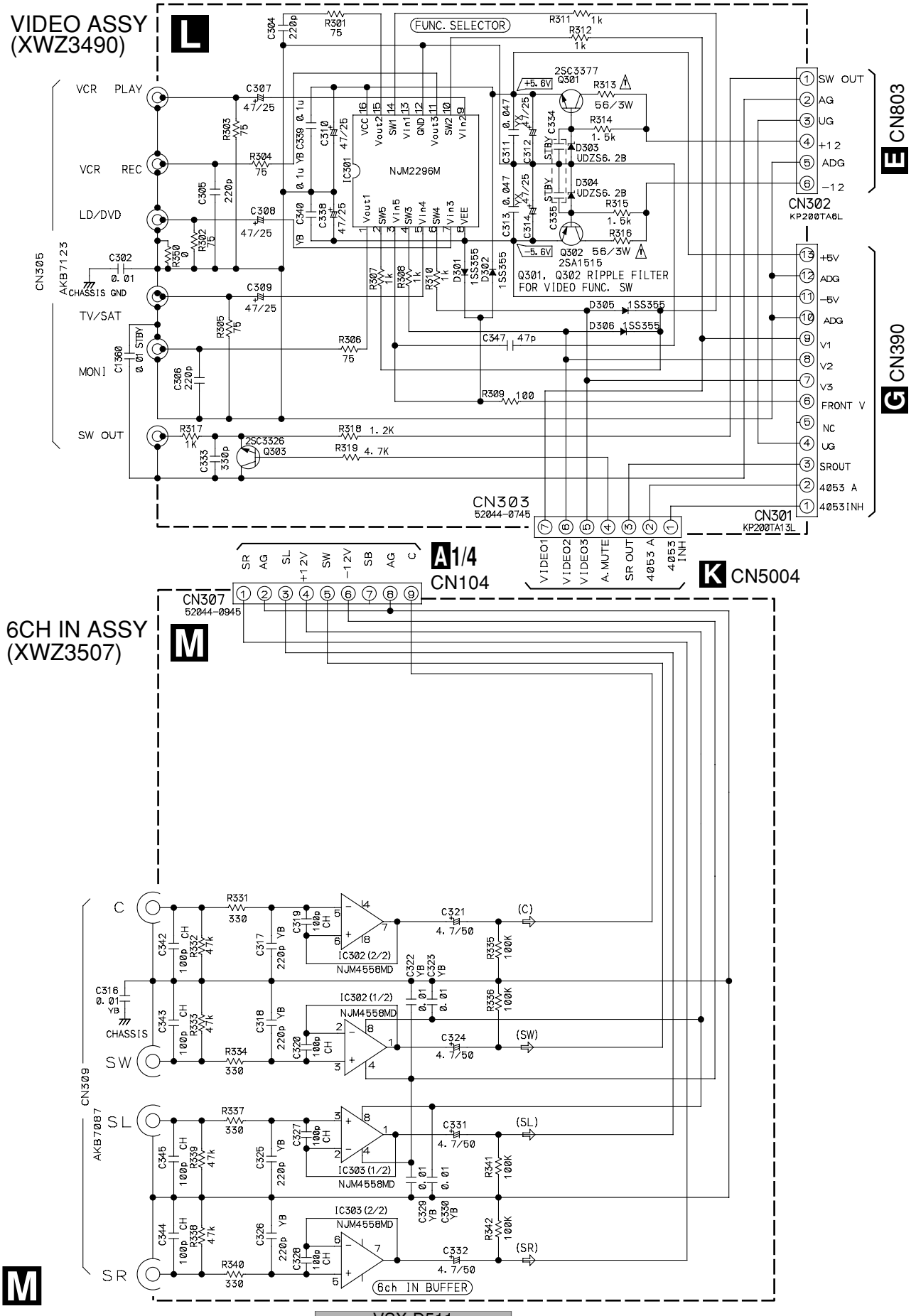

TRANS3 ASSY (XWZ3560)
TRANS2 ASSY (XWZ3555)
POWER TRANSFORMER
SPEAKER A
CHASSIS
CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE NO. 49101.6 FOR IC853 MFD, BY LITTELFUSE INC.
CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE NO. 491.125 FOR IC701 AND IC702 MFD, BY LITTELFUSE INC.
CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE NO. 49101.6 FOR IC851 AND IC852 MFD, BY LITTELFUSE INC.
CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE NO. 491001 FOR IC603 MFD, BY LITTELFUSE INC.
CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE NO. 491010 FOR IC604, IC605, IC606, AND IC607 MFD, BY LITTELFUSE INC.
• NOTE FOR FUSE REPLACEMENT
CAUTION -FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE WITH SAME TYPE AND RATINGS ONLY.
Q605, 606, 633, 655, 656: OVERLOAD DETECTOR
Q691, 692: ( ) DC OUTPUT DETECTOR
⇨: AUDIO SIGNAL ROUTE
F701, H701, 702: REK1087 (10A)
D5SBA20 (B)
ACG1005-A-T
ACH1237
AEK7020 (125mA)
AEK7012 (1.6A)
XKP3047
52147-0610
J21 D20PYY0715E
CN751
CN752
RY751 (1/2)
RY751 (2/2)
RY752 (1/2)
RY753 (1/2)
RY753 (2/2)
XSR3002
+12V
SP-A
R/C SP
B 1/2 C D
B 2/2
U 1551
VSX-D511
25

3.8 AMP & PRIMARY(2/2), REGULATOR, AMP INPUT and TRANS1 ASSYS




H AMP INPUT ASSY (XWZ3547)
CN254
52044-1945
A2/4 CN106
B1/2 CN601
CN253
KP200TA16L
CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE NO. 491.315 FOR IC52 MFD, BY LITTELFUSE INC.
B1/2
I TRANS1 ASSY (XWZ3552)
POWER TRANSFORMER
REK1086 (8A)
REK1087 (10A)
CN51
RKP1751
AKP1060
ATT7057
ATF7018
KRC101M
NJM78M56FA
IC51 : U+5V REG. IC
RY51 : POWER RELAY
LIVE
NEUTRAL
AC POWER CORD ADG7024
• NOTE FOR FUSE REPLACEMENT
CAUTION - FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE WITH SAME TYPE AND RATINGS ONLY.
B1/2 H I

3.9 VIDEO, 6CH IN and S.VIDEO ASSYS



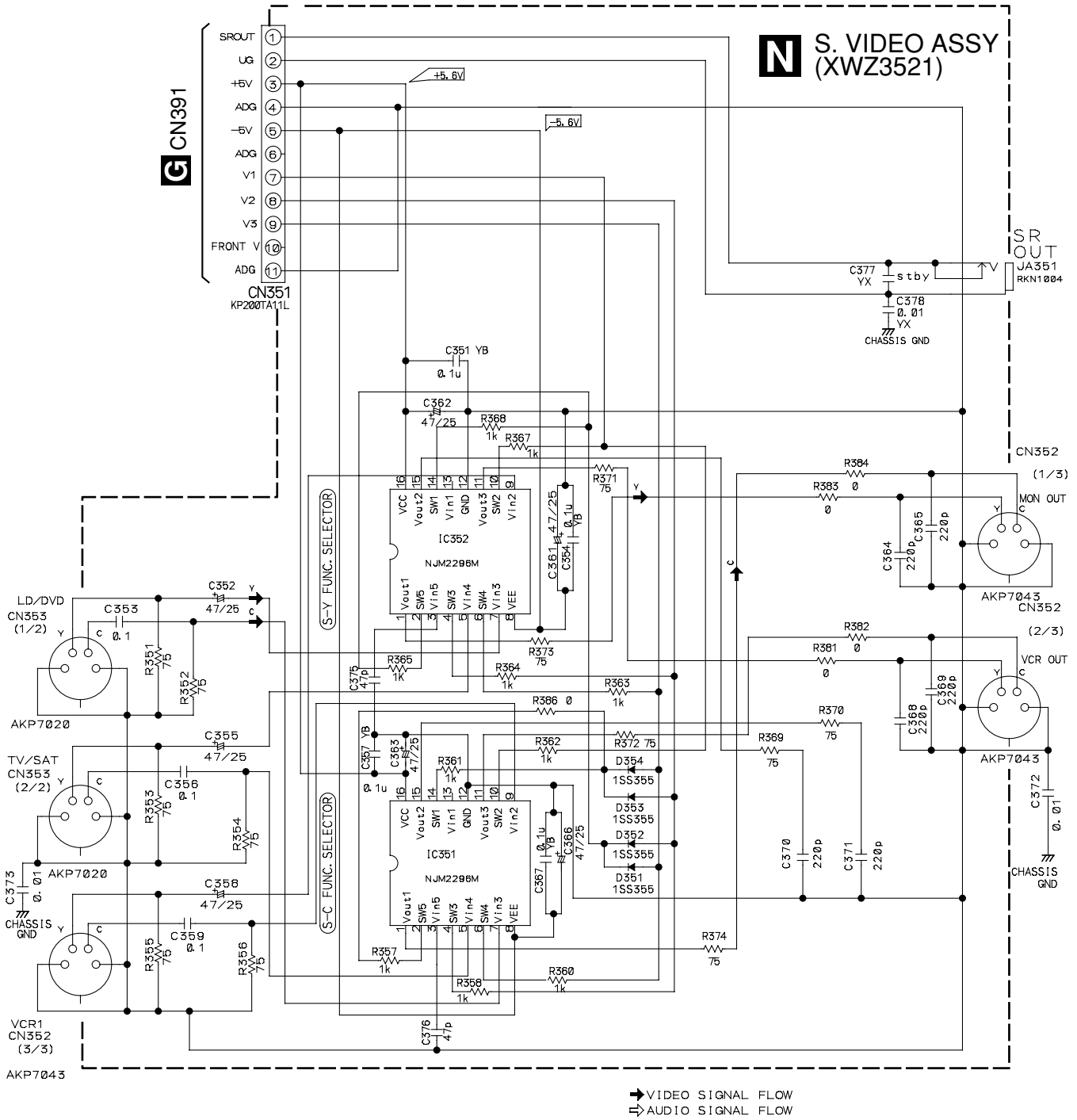
NOTE

1. RESISTORS
   Unit: k-kΩ, M-MΩ or Ω unless otherwise noted.
   Rated power: 1/10W unless otherwise noted.
   Tolerance: (J)±5% unless otherwise noted.
2. CAPACITORS
   Unit: p-pF or μF unless otherwise noted.
   Ratings: Capacity(μF)/Voltage(V) unless otherwise noted.
   Rated Voltage: 50V expect for electrolytic capacitors.
3. DIODES
   Indicated in 1SS355-TRB

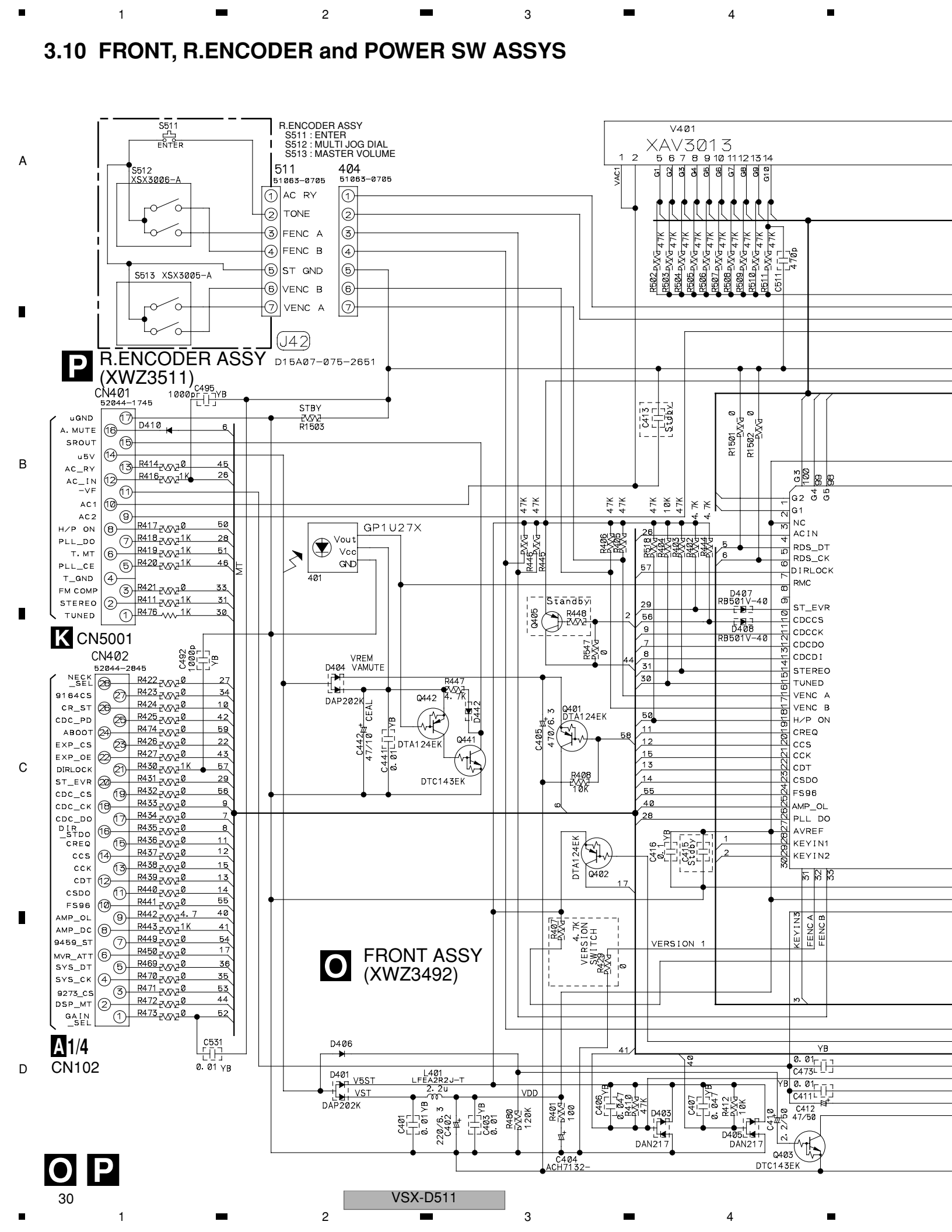
NJM2296D control port status

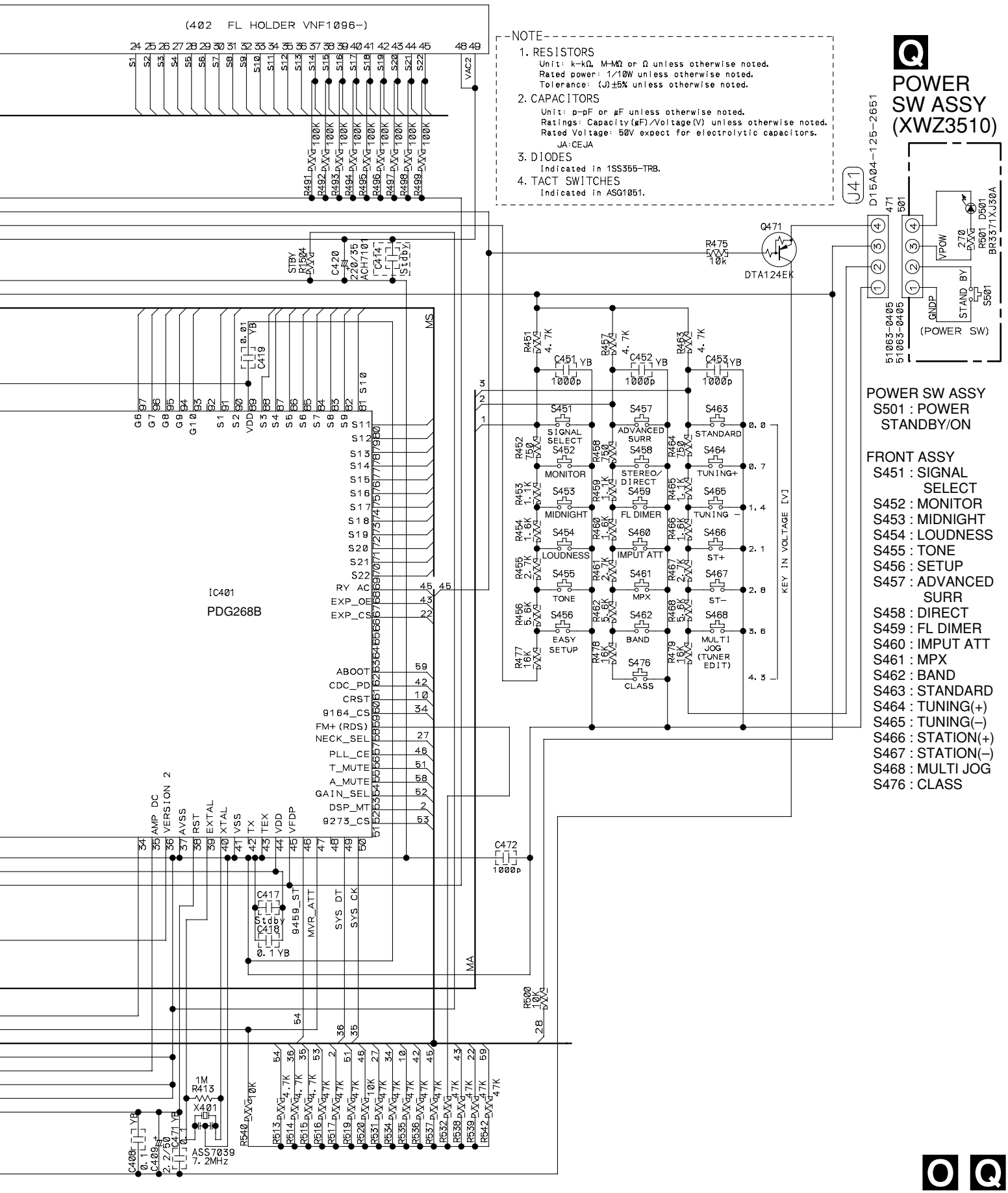
SW1	SW2	SW3	SW4	SW5	Vout1	Vout2	Vout3
1	0	(1)	0	1	Vin2	Vin2	mute
1	1	(1)	0	1	Vin3	Vin3	Vin3
1	1	0	1	1	Vin4	Vin4	Vin4
1	1	1	1	1	Vin5	Vin5	Vin5
0	0	(0)	(0)	0	mute	mute	mute

VIN 2. VCR
VIN 3. DVD/LD
VIN 4. TV/SAT
VIN 5. FRONT
Vout1. MON out
Vout2. MR out
Vout3. VCR out

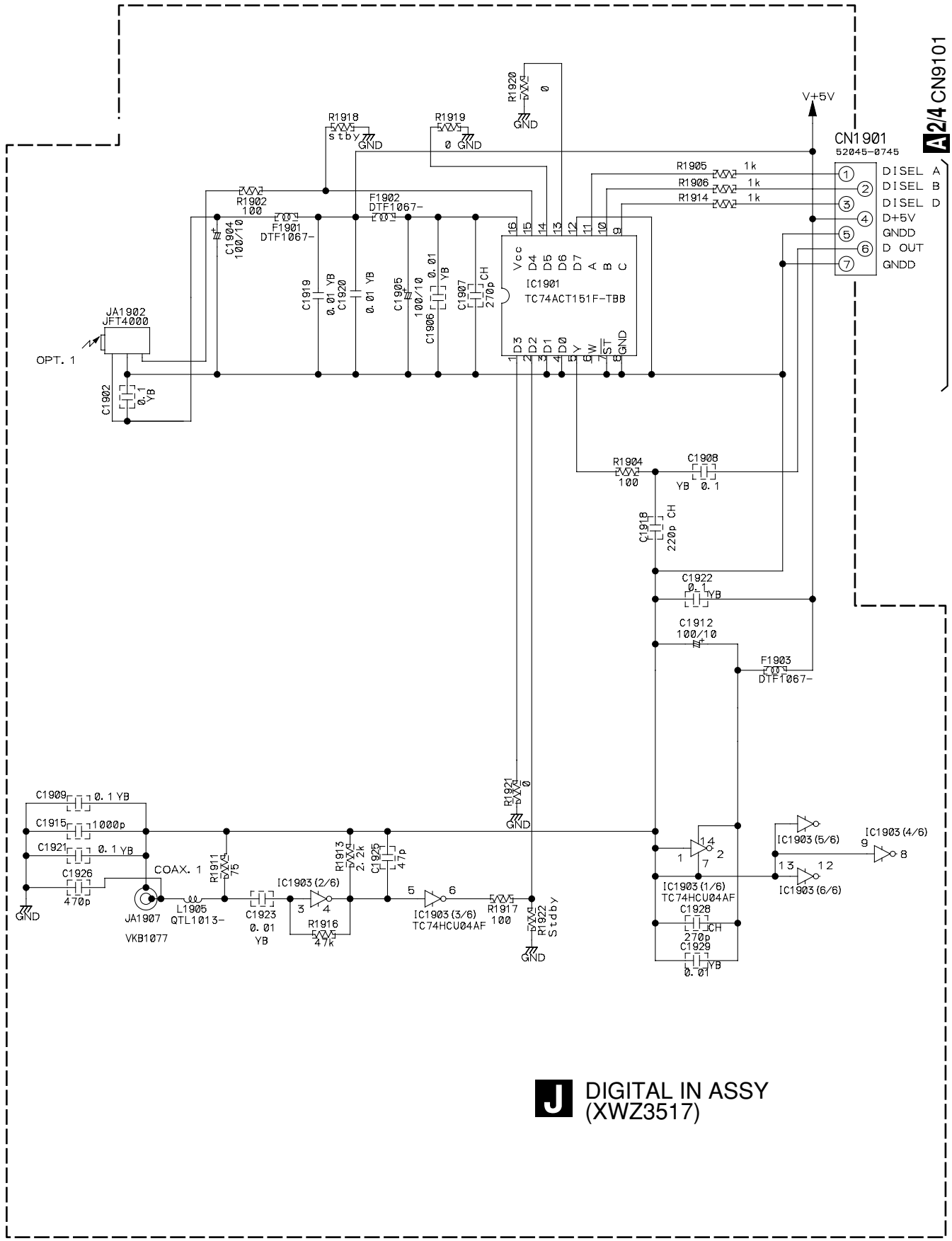


3.10 FRONT, R.ENCODER and POWER SW ASSYS

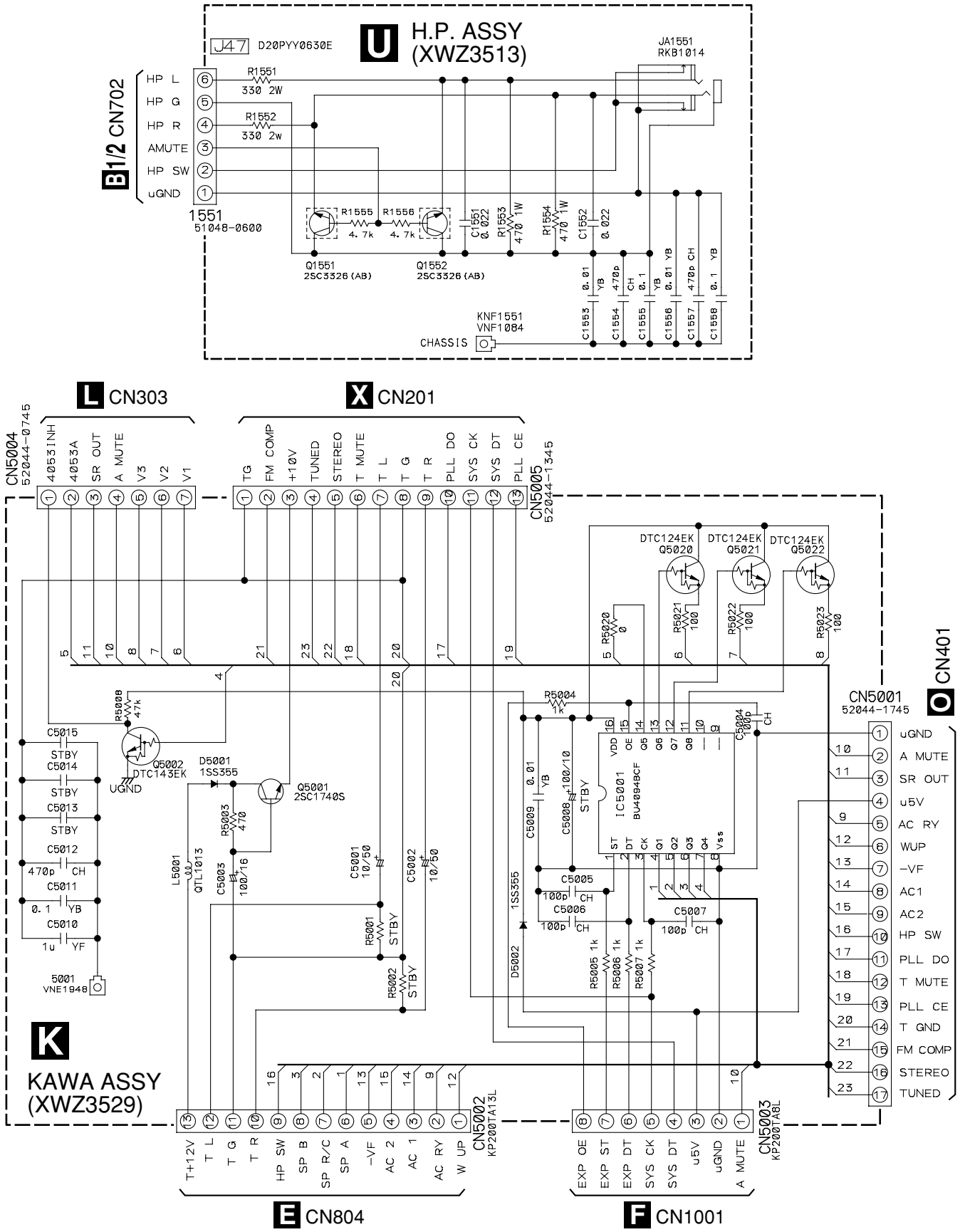



(402 FL HOLDER VNF1096-)
NOTE
1. RESISTORS
Unit: k-kΩ, M-MΩ or Ω unless otherwise noted.
Rated power: 1/10W unless otherwise noted.
Tolerance: (J)±5% unless otherwise noted.
2. CAPACITORS
Unit: p-pF or μF unless otherwise noted.
Ratings: Capacity(μF)/Voltage(V) unless otherwise noted.
Rated Voltage: 50V expect for electrolytic capacitors.
JA:CEJA
3. DIODES
Indicated in 1SS355-TRB.
4. TACT SWITCHES
Indicated in ASG1051.
POWER SW ASSY (XWZ3510)
J41
D15A04-125-2651
51063-0405
51063-0405
(POWER SW)
Q471
DTA124EK
R475 10k
STBY
C420 220/35
C414 Stdby
C419 0.01 YB
IC401
PDG268B
RY AC
EXP_OE
EXP_CS
ABOOT
CDC_PD
CRST
9164_CS
FM+ (RDS)
NECK_SEL
PLL_CE
T_MUTE
A_MUTE
GAIN_SEL
DSP_MT
9273_CS
AMP DC VERSION 2
AVSS
RST
EXTAL
XTAL
VSS
TX
TEX
VDD
VFDP
C417 Stdby
C418 0.1 YB
9459_ST
MVR_ATT
SYS DT
SYS CK
C472 1000p
X401 ASS7039 7.2MHz
R413 1M
R540 10K
R500 10K
C408 0.1 YB
C409 2.2/50
C471 0.1 YB
C451 1000p YB
C452 1000p YB
C453 1000p YB
R451 4.7K
R457 4.7K
R463 4.7K
S451 SIGNAL SELECT
S457 ADVANCED SURR
S463 STANDARD
S452 MONITOR
S458 STEREO/DIRECT
S464 TUNING+
S453 MIDNIGHT
S459 FL DIMER
S465 TUNING-
S454 LOUDNESS
S460 IMPUT ATT
S466 ST+
S455 TONE
S461 MPX
S467 ST-
S456 EASY SETUP
S462 BAND
S468 MULTI JOG (TUNER EDIT)
S476 CLASS
KEY IN VOLTAGE [V]
0.0
0.7
1.4
2.1
2.8
3.6
4.3
VPOW
STAND BY
GNDP
R501 270
D501 BR3371XJ30A
S501
POWER SW ASSY
S501 : POWER STANDBY/ON
FRONT ASSY
S451 : SIGNAL SELECT
S452 : MONITOR
S453 : MIDNIGHT
S454 : LOUDNESS
S455 : TONE
S456 : SETUP
S457 : ADVANCED SURR
S458 : DIRECT
S459 : FL DIMER
S460 : IMPUT ATT
S461 : MPX
S462 : BAND
S463 : STANDARD
S464 : TUNING(+)
S465 : TUNING(-)
S466 : STATION(+)
S467 : STATION(-)
S468 : MULTI JOG
S476 : CLASS

3.11 DIGITAL IN, H.P. and KAWA ASSYS

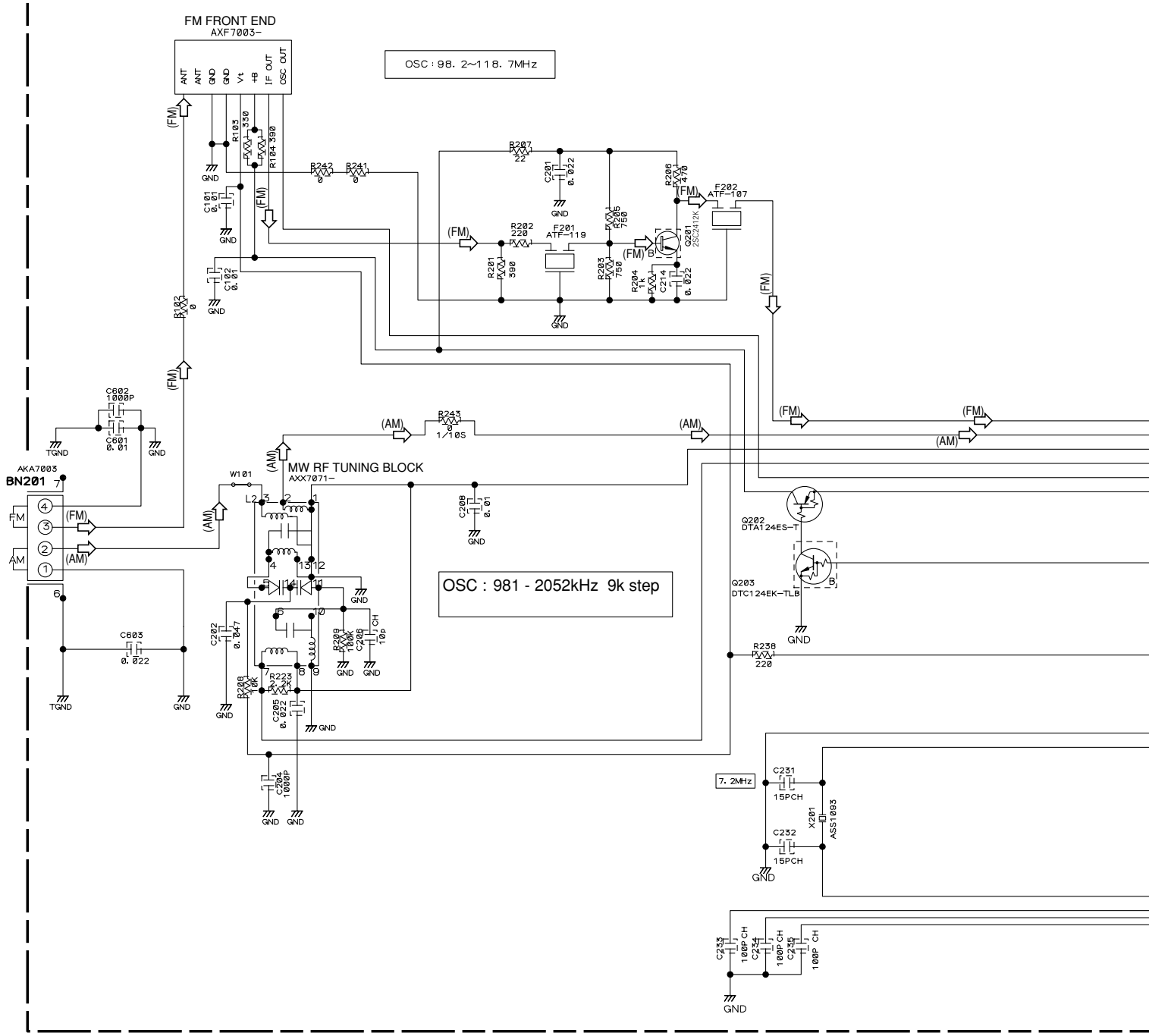


J DIGITAL IN ASSY (XWZ3517)


U H.P. ASSY (XWZ3513)
J47 D20PYY0630E
JA1551 RKB1014
B1/2 CN702
HP L
HP G
HP R
AMUTE
HP SW
uGND
1551 51048-0600
R1551 330 2W
R1552 330 2w
R1555 4.7k
R1556 4.7k
C1551 0.022
R1553 470 1W
R1554 470 1W
C1552 0.022
Q1551 2SC3326(AB)
Q1552 2SC3326(AB)
C1553 0.01 YB
C1554 470p CH
C1555 0.1 YB
C1556 0.01 YB
C1557 470p CH
C1558 0.1 YB
KNF1551 VNF1084
CHASSIS
L CN303
X CN201
CN5004 52044-0745
4053INH
4053A
SR OUT
A MUTE
V3
V2
V1
CN5005 52044-1345
TG
FM COMP
+10V
TUNED
STEREO
T MUTE
T L
T G
T R
PLL DO
SYS CK
SYS DT
PLL CE
DTC124EK Q5020
DTC124EK Q5021
DTC124EK Q5022
R5020 0
R5021 100
R5022 100
R5023 100
R5004 1k
R5008 47k
Q5002 DTC143EK
UGND
D5001 1SS355
Q5001 2SC1740S
C5015 STBY
C5014 STBY
C5013 STBY
C5012 470p CH
C5011 0.1 YB
C5010 1u YF
5001 VNE1948
R5003 470
L5001 QTL1013
C5003 100/16
C5001 10/50
C5002 10/50
R5001 STBY
R5002 STBY
C5009 0.01 YB
C5008 100/10 STBY
IC5001 BU4094BCF
C5005 100p CH
C5006 100p CH
C5007 100p CH
C5004 100p CH
1SS355
D5002
R5005 1k
R5006 1k
R5007 1k
CN5001 52044-1745
O CN401
uGND
A MUTE
SR OUT
u5V
AC RY
WUP
-VF
AC1
AC2
HP SW
PLL DO
T MUTE
PLL CE
T GND
FM COMP
STEREO
TUNED
K KAWA ASSY (XWZ3529)
CN5002 KP200TA13L
T+12V
T L
T G
T R
HP SW
SP B
SP R/C
SP A
-VF
AC 2
AC 1
AC RY
W UP
CN5003 KP200TA8L
EXP OE
EXP ST
EXP DT
SYS CK
SYS DT
u5V
uGND
A MUTE
E CN804
F CN1001

3.12 FM/AM TUNER MODULE

X FM/AM TUNER MODULE (AXQ7231)

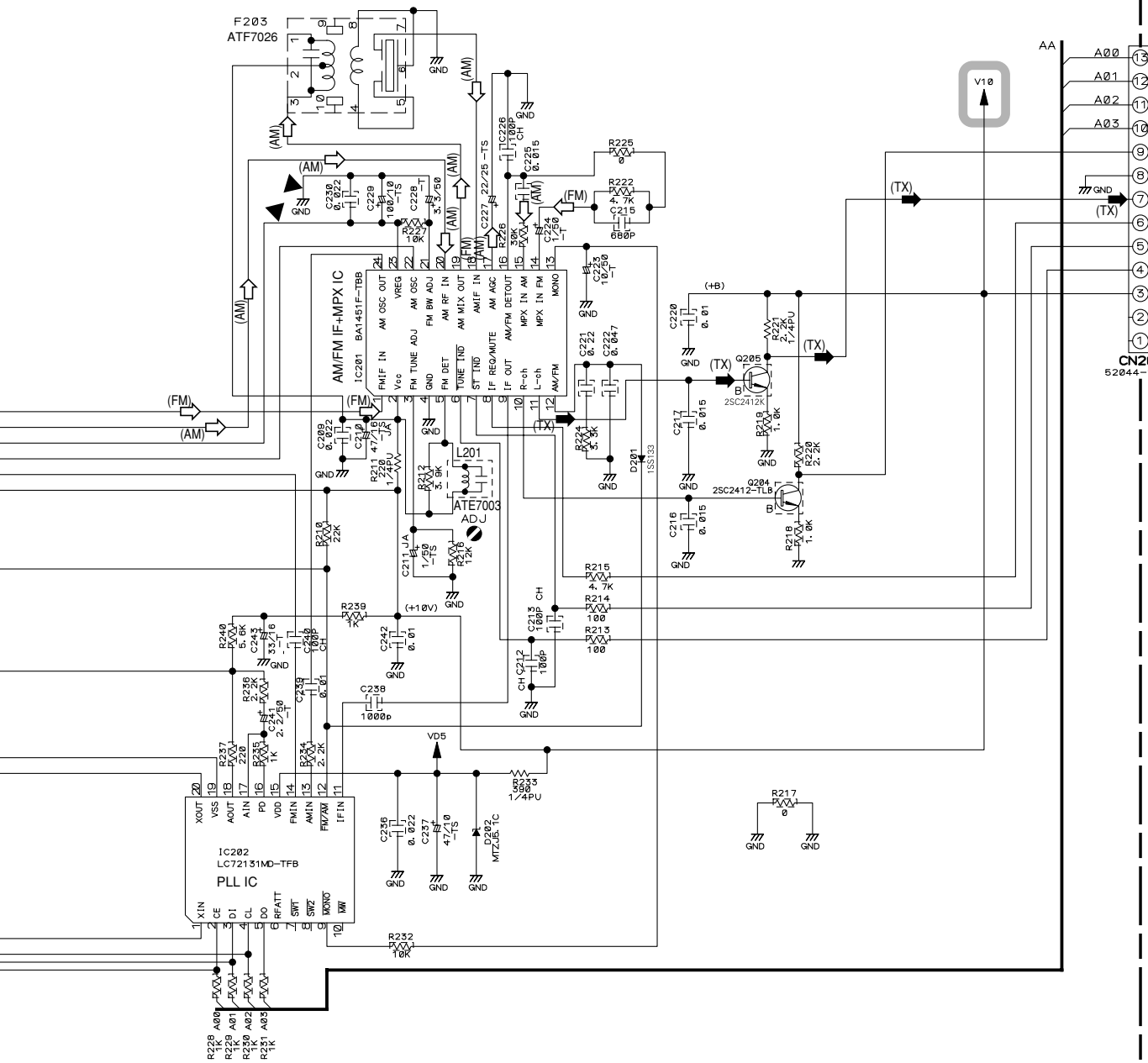


Notes

: The power supply is shown with the marked box.

1. RESISTORS
   Indicated in Ω, 1/16W±5% Tolerance unless otherwise noted K:KΩ, M:MΩ.
2. CAPACITORS
   Indicated in Capacity(μF)/VOLTAGE(V) unless otherwise noted P:PF.
3. DIODES
   No mark diode is 1SS133.

(TX) : AUDIO SIGNAL ROUTE (TUNER)
(AM) : AM SIGNAL ROUTE
(FM) : FM SIGNAL ROUTE



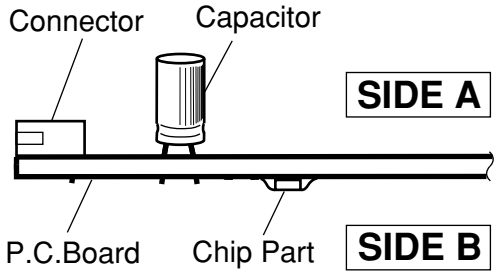
4. PCB CONNECTION DIAGRAM

NOTE FOR PCB DIAGRAMS :

1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

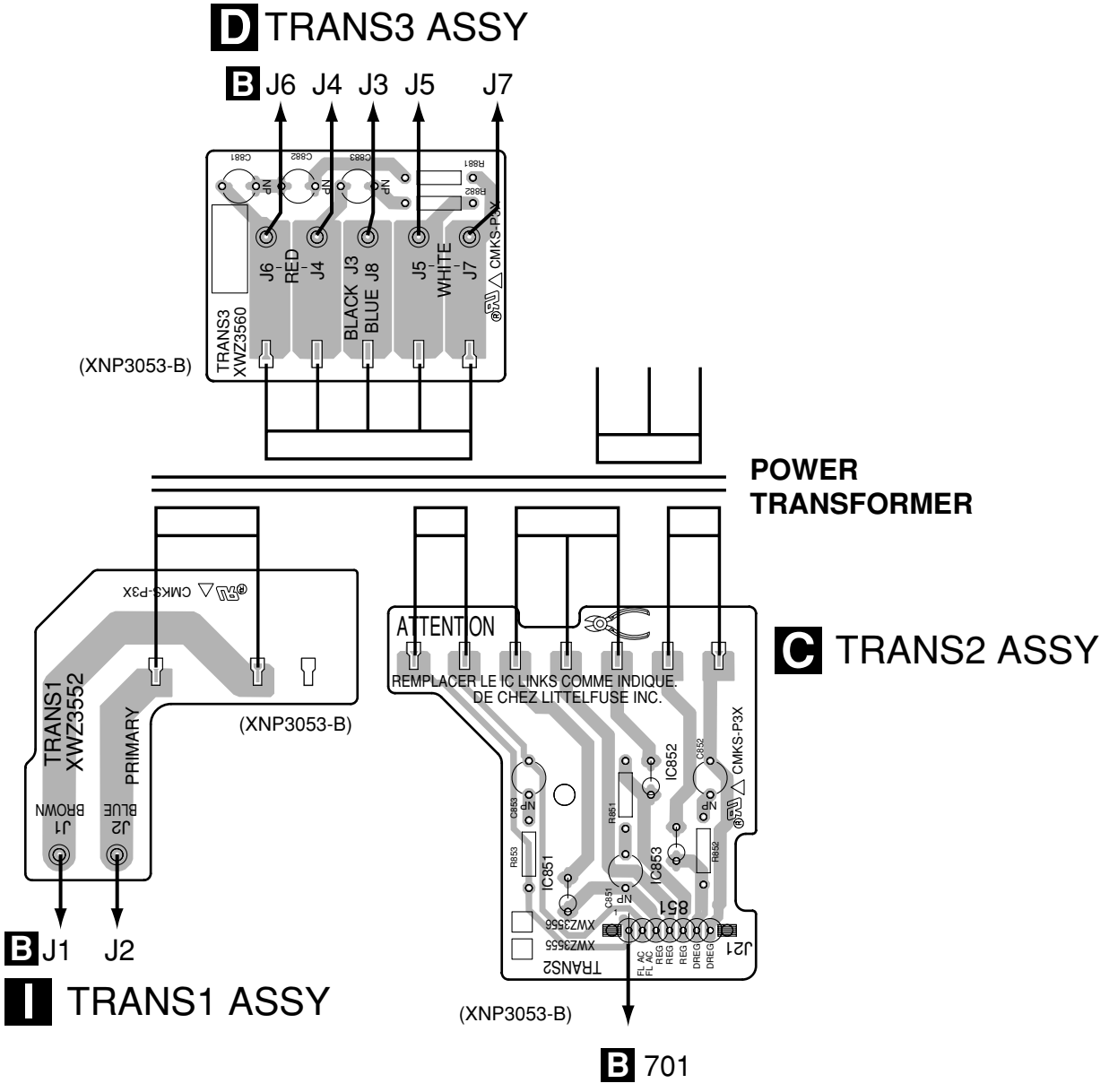
Symbol In PCB Diagrams	Symbol In Schematic Diagrams	Part Name
B C E	B C E B C E	Transistor
B C E	B C E B C E	Transistor with resistor
D G S	D G S D G S	Field effect transistor
		Resistor array
		3-terminal regulator

3. The parts mounted on this PCB include all necessary parts for several destinations.
   For further information for respective destinations, be sure to check with the schematic diagram.
4. View point of PCB diagrams.



4.1 TRANS1, TRANS2 and TRANS3 ASSYS

SIDE A



C D I

4.2 D.D & INPUT ASSY

SIDE A

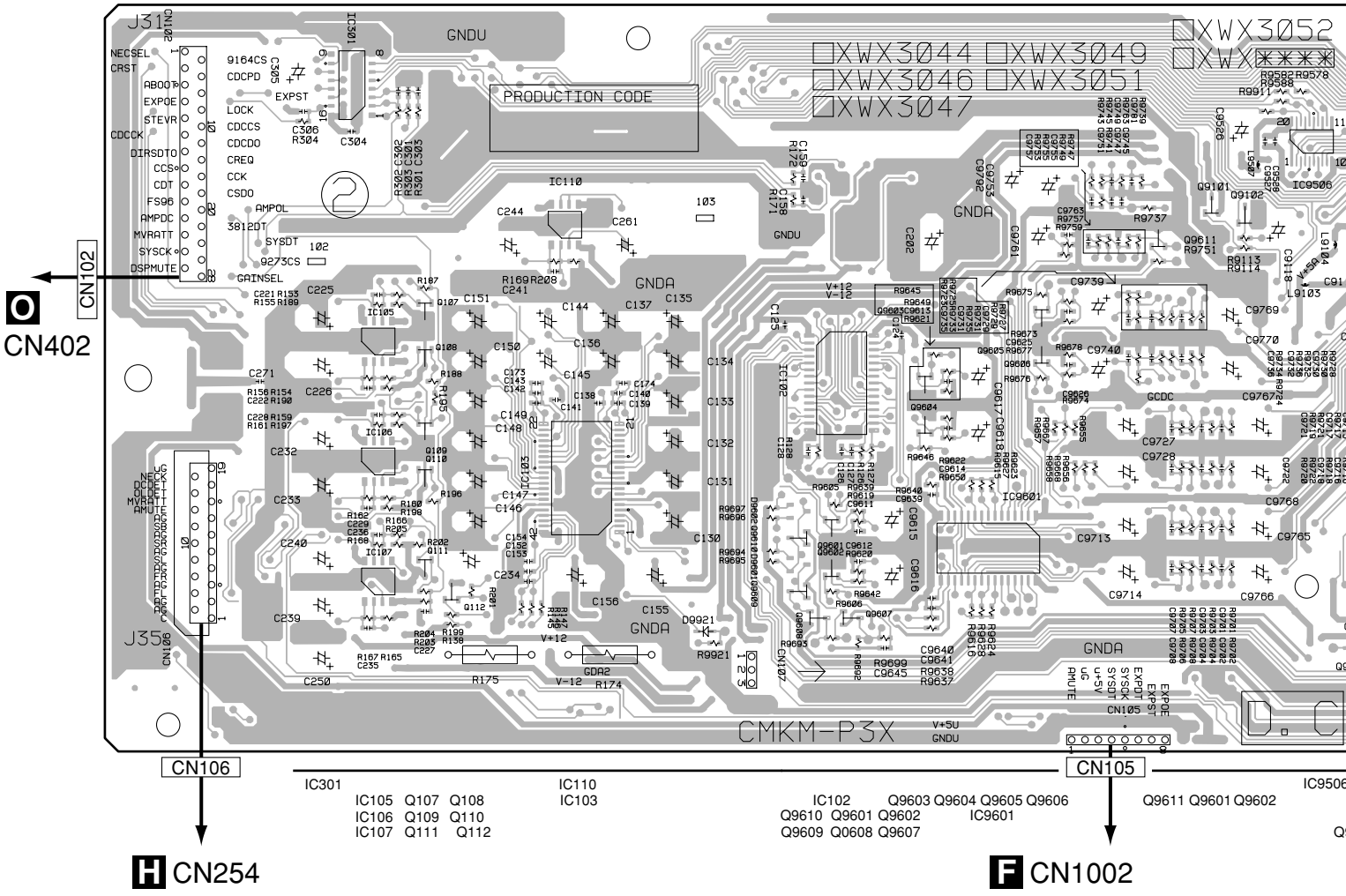
A

B

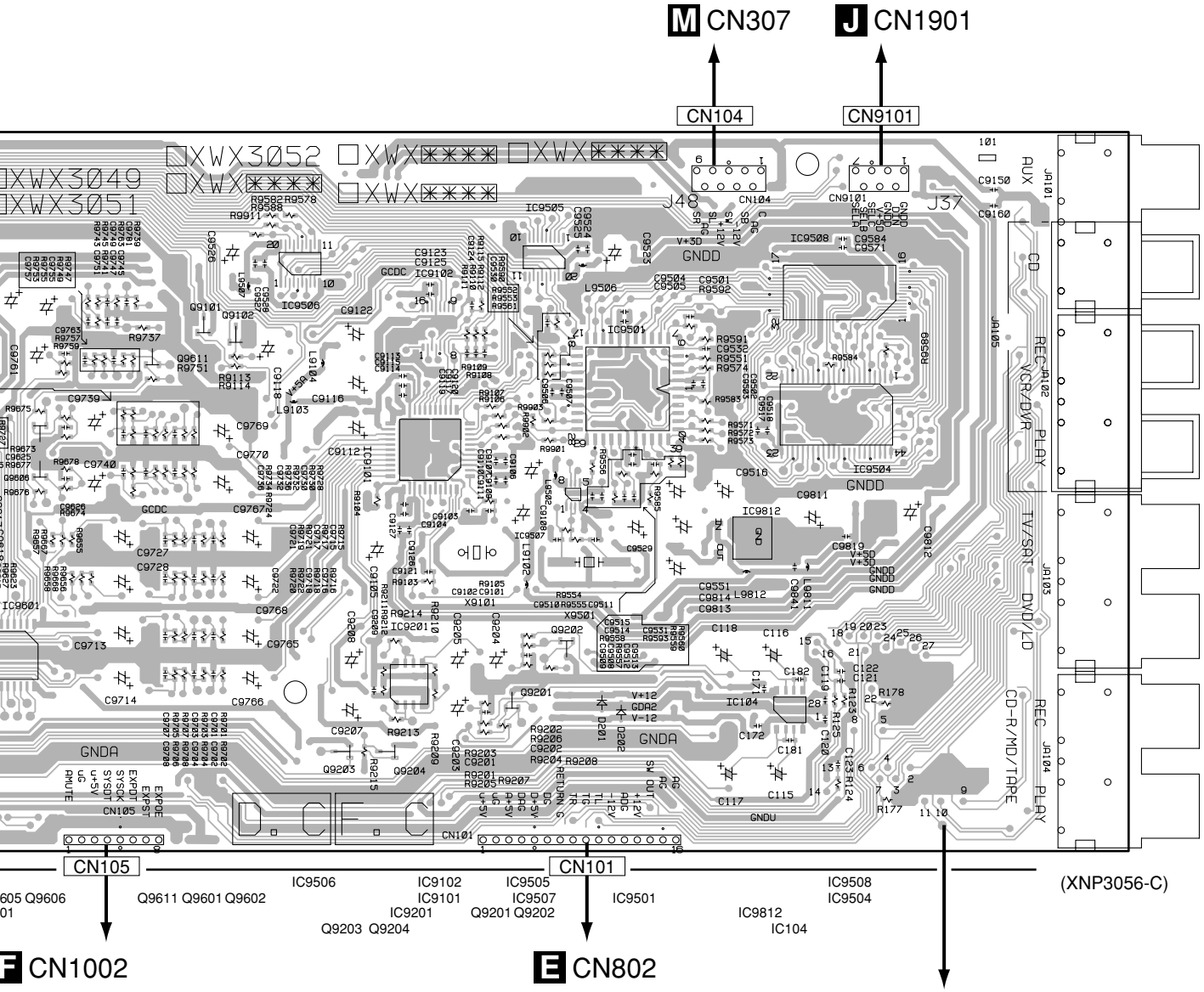
C

D

A D.D & INPUT ASSY



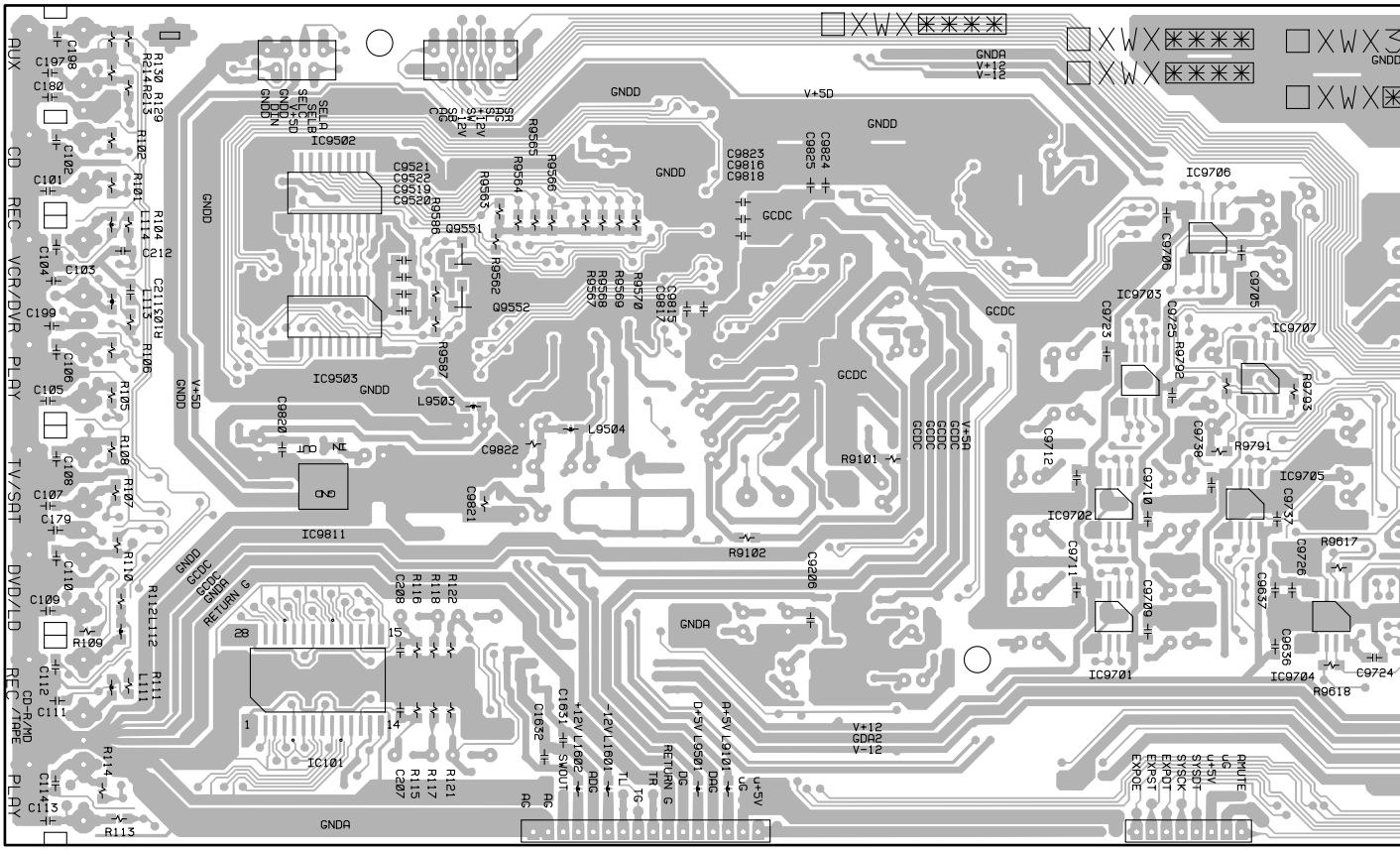
SIDE A



Note : The pin of function IC(IC101 TC9273F-007)can be checked from side-A by the through-hole round. The pin No. is printed on the side-A.

SIDE B

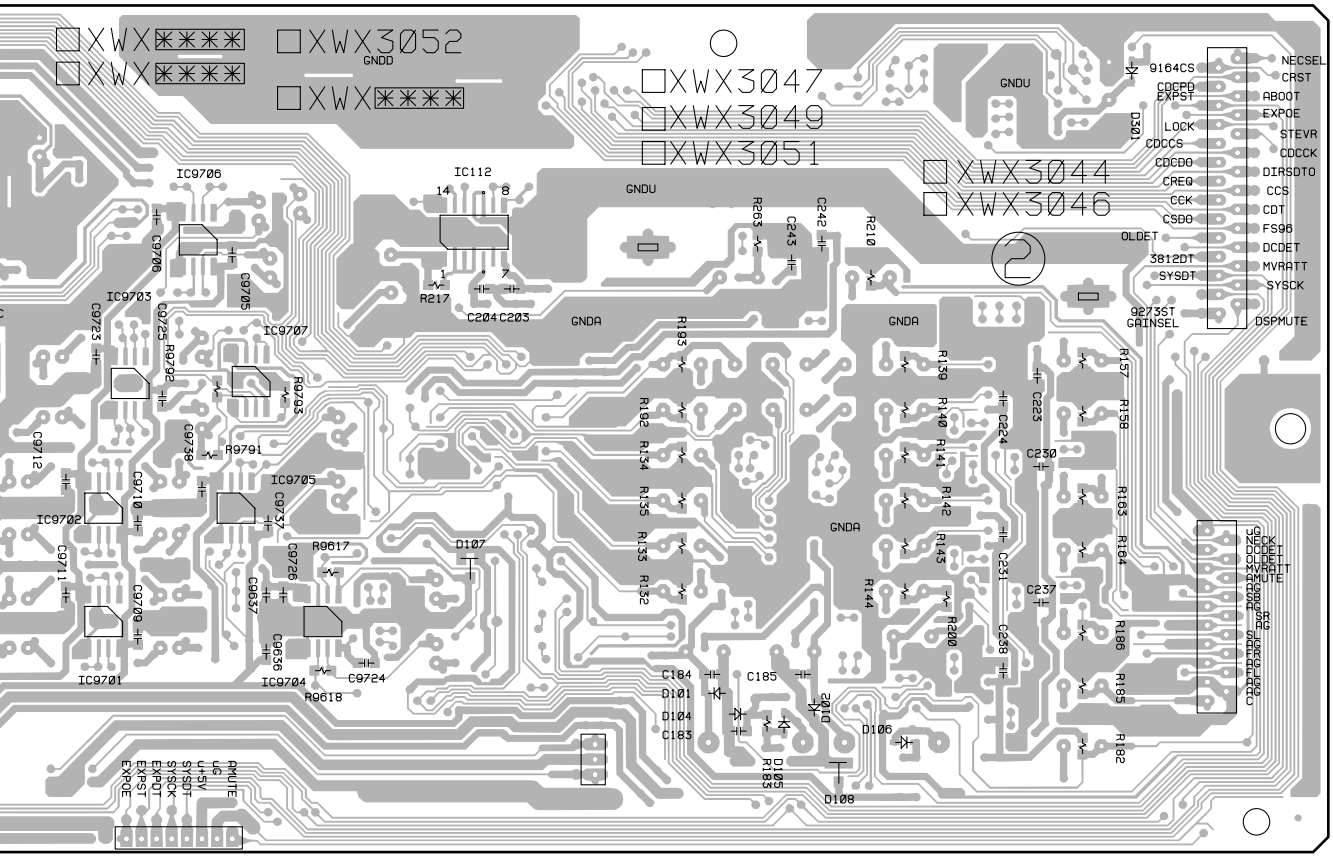
A D.D & INPUT ASSY



IC9502
IC9503 Q9551 Q9552
IC9811
IC101

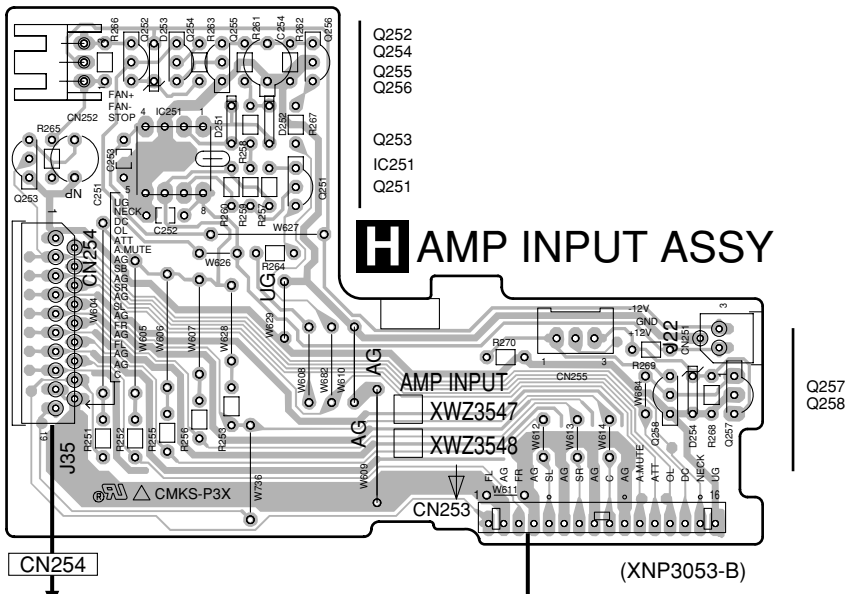
IC9705
IC9703 IC9707
IC9702 IC9705
IC9701 IC9704

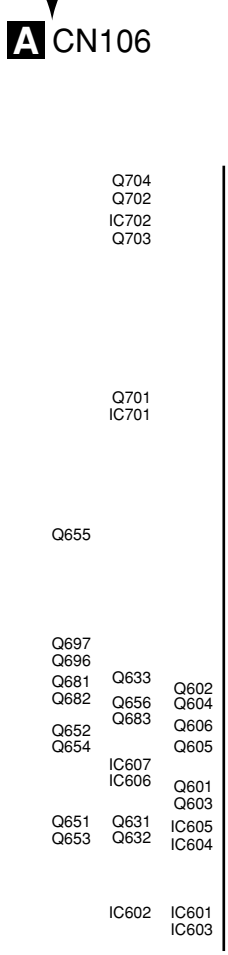
SIDE B

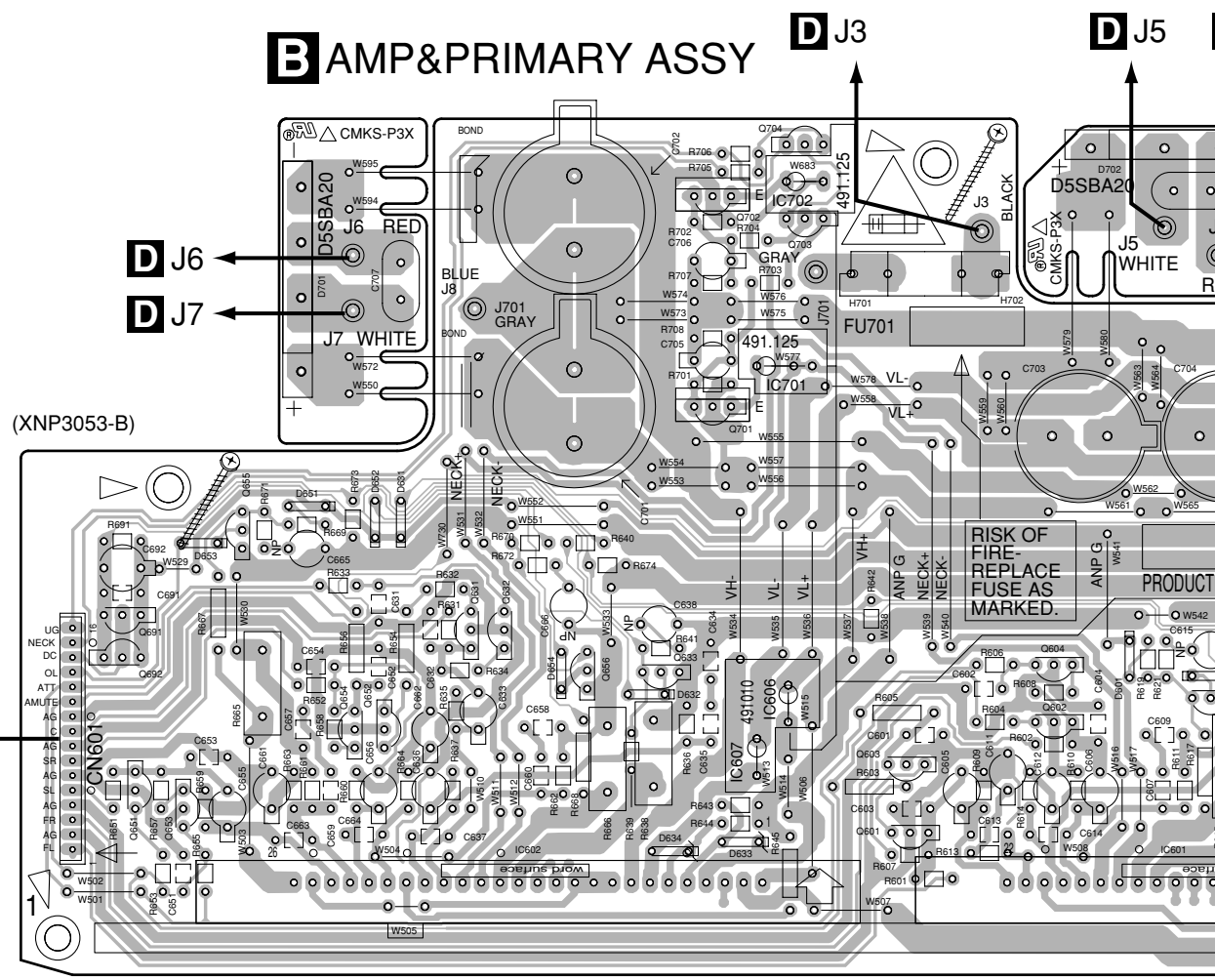

XWX****
XWX****
XWX3052
XWX****
XWX3047
XWX3049
XWX3051
XWX3044
XWX3046
GNDD
GNDU
GNDA
IC9706
IC112
IC9703
IC9707
IC9705
IC9702
IC9701
IC9704
9164CS
CDCPD
EXPST
LOCK
CDCCS
CDCDO
CREQ
CCK
CSDO
OLDET
3812DT
SYSDT
9273ST
GAINSEL
NECSEL
CRST
ABOOT
EXPOE
STEVR
CDCCK
DIRSDTO
CCS
CDT
FS96
DCDET
MVRATT
SYSCK
DSPMUTE
D107
D106
D100
D101
D104
D105
C184
C185
C183
R217
C204
C205
C242
C243
R263
R210
C223
C224
C230
C231
C237
C238
R144
R200
R186
R185
R192
R193
R192
R134
R135
R133
R132
R139
R140
R141
R142
R143
R157
R158
R163
R164
C9712
C9710
C9711
C9709
C9723
C9725
R9792
R9793
C9738
R9791
C9737
C9726
C9727
C9636
R9617
R9618
C9724
C9705
C9706
C9707
C9708
IC9703
IC9707
IC9702
IC9705
IC9701
IC9704
IC112
(XNP3056-C)

4.3 AMP INPUT and AMP ASSYS

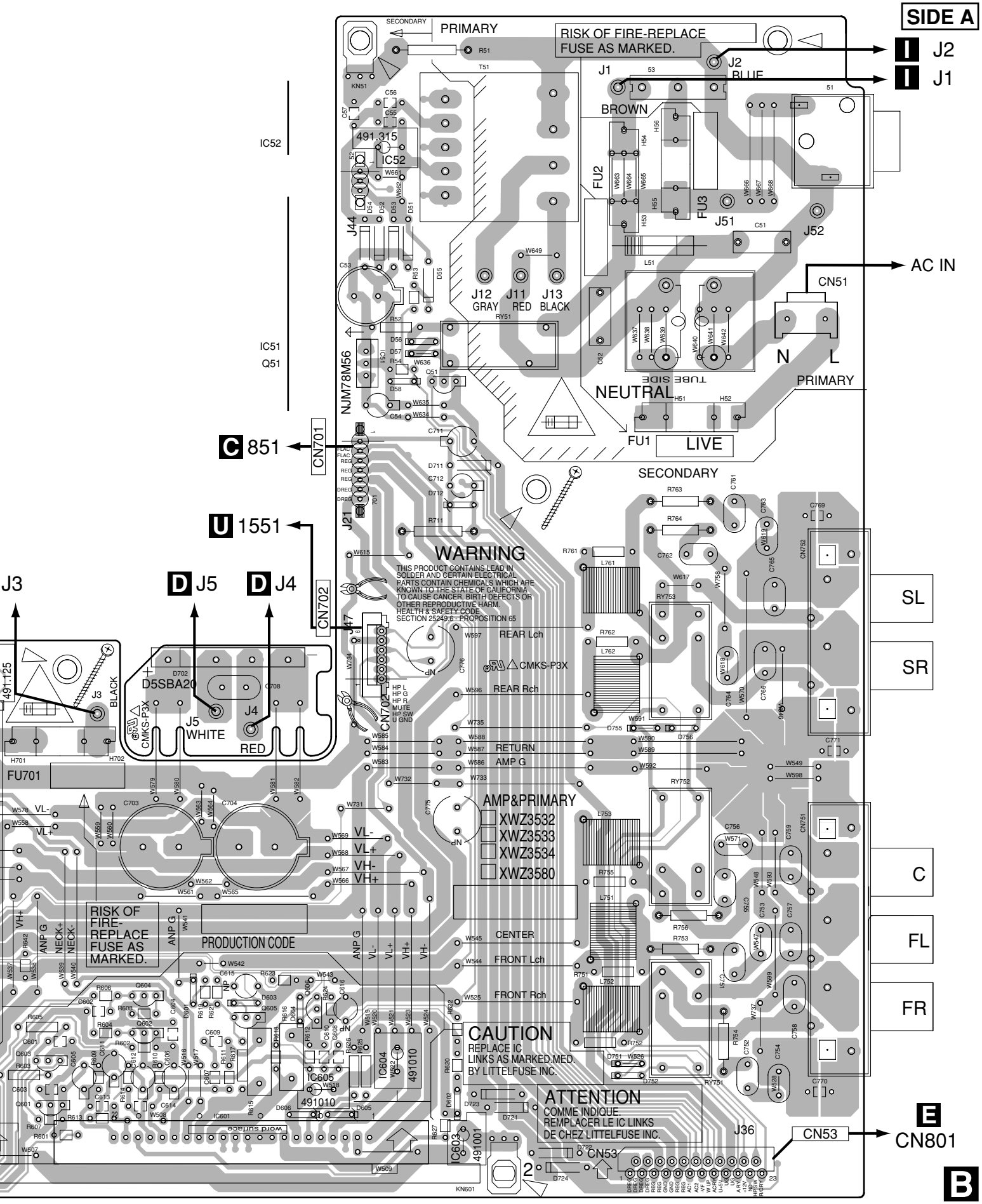
SIDE A







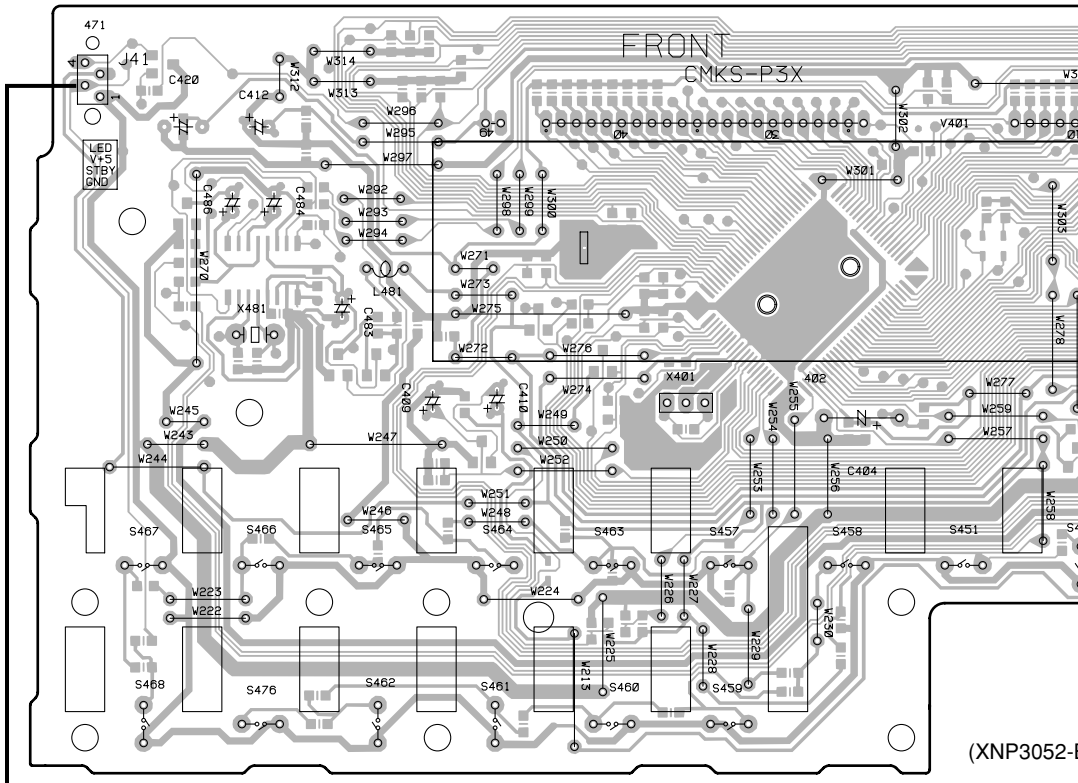
B **H**

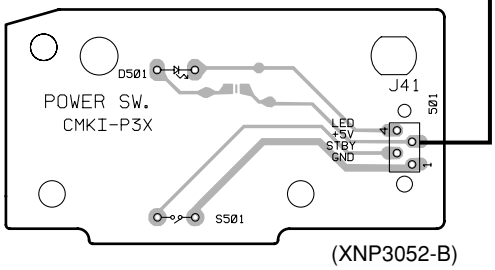

SIDE A
I J2
I J1
AC IN
CN51
N L
PRIMARY
SECONDARY
PRIMARY
RISK OF FIRE-REPLACE FUSE AS MARKED.
J2 BLUE
J1
BROWN
J51
J52
J44
J12 GRAY
J11 RED
J13 BLACK
FU2
FU3
NEUTRAL
FU1 LIVE
TUBE SIDE
IC52
491.315
IC51
Q51
NJM78M56
C 851
CN701
U 1551
CN702
J21
J47
J3
D J5
D J4
491.125
BLACK
WHITE
RED
D5SBA20
CMKS-P3X
FU701
WARNING
THIS PRODUCT CONTAINS LEAD IN SOLDER AND CERTAIN ELECTRICAL PARTS CONTAIN CHEMICALS WHICH ARE KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER, BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM. HEALTH & SAFETY CODE SECTION 25249.6 - PROPOSITION 65
REAR Lch
REAR Rch
HP L
HP G
HP R
MUTE
HP SW
U GND
RETURN
AMP G
AMP&PRIMARY
XWZ3532
XWZ3533
XWZ3534
XWZ3580
VL-
VL+
VH-
VH+
CENTER
FRONT Lch
FRONT Rch
PRODUCTION CODE
RISK OF FIRE-REPLACE FUSE AS MARKED.
CAUTION
REPLACE IC LINKS AS MARKED.MED. BY LITTELFUSE INC.
ATTENTION
COMME INDIQUE. REMPLACER LE IC LINKS DE CHEZ LITTELFUSE INC.
IC605
IC604
IC603
491010
491001
J36
CN53
E CN801
SL
SR
C
FL
FR
B

4.4 FRONT, POWER SW, H.P. and R.ENCODER ASSYS

SIDE A

O FRONT ASSY



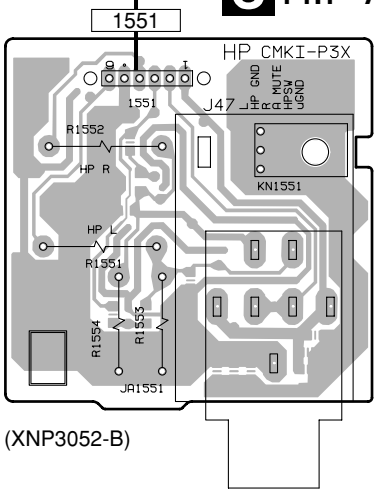


(XNP3052-B)

Q POWER SW ASSY

B CN702

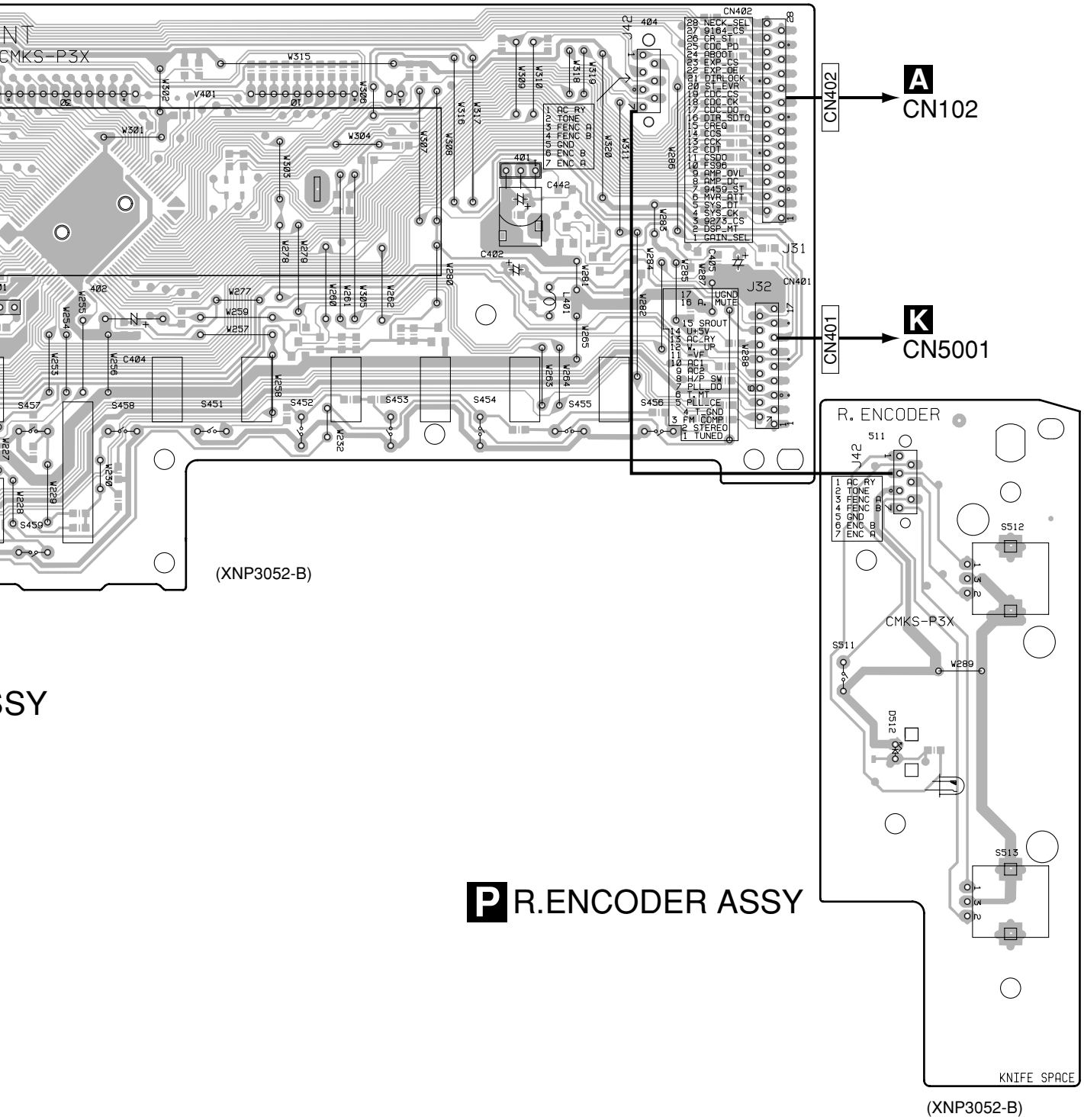
U H.P ASSY



(XNP3052-B)

O Q U

SIDE A

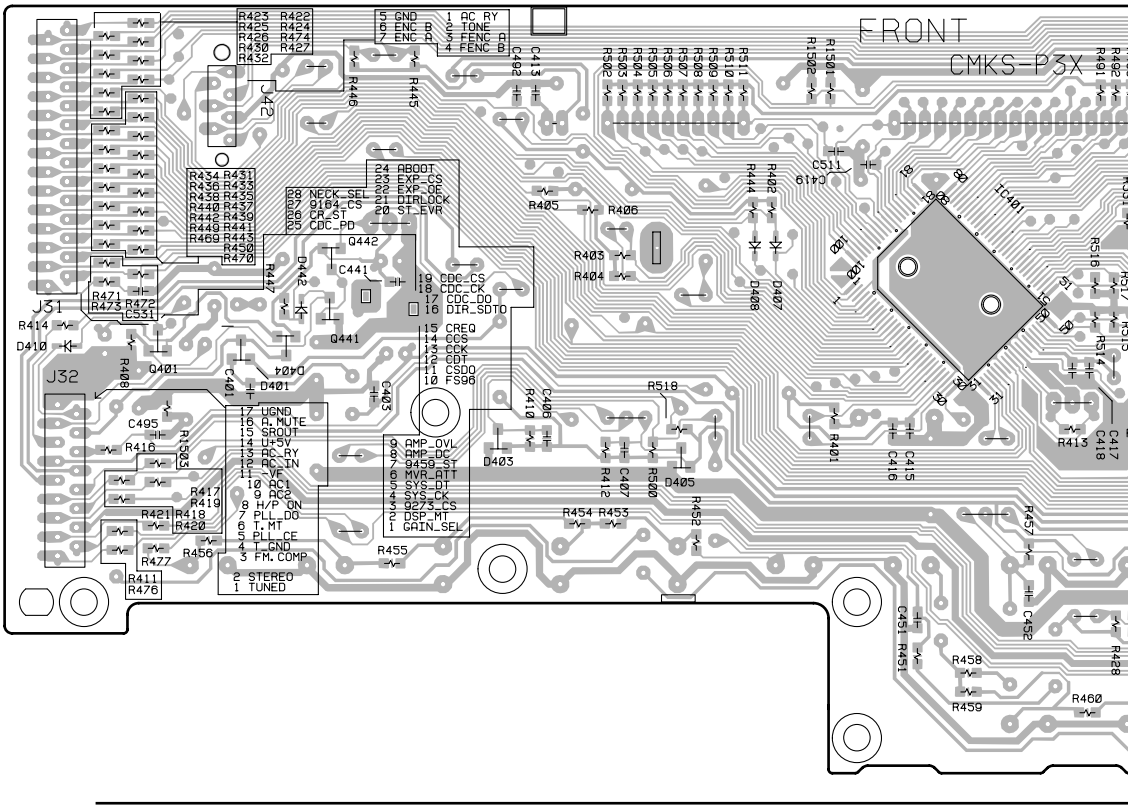


P R.ENCODER ASSY

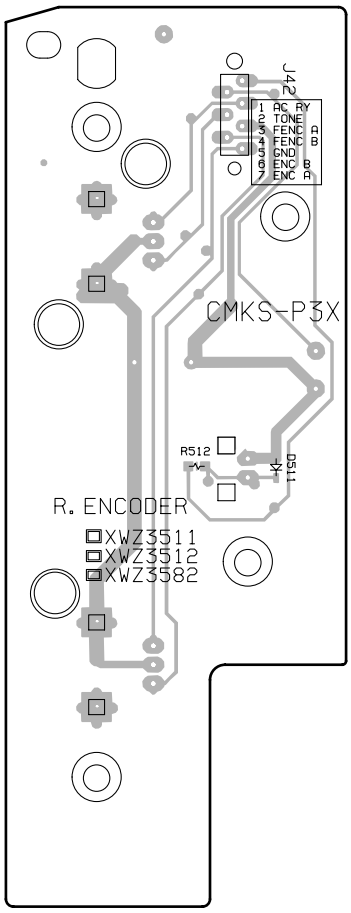
SIDE B

A

O FRONT ASSY



B



P R.ENCODER ASSY

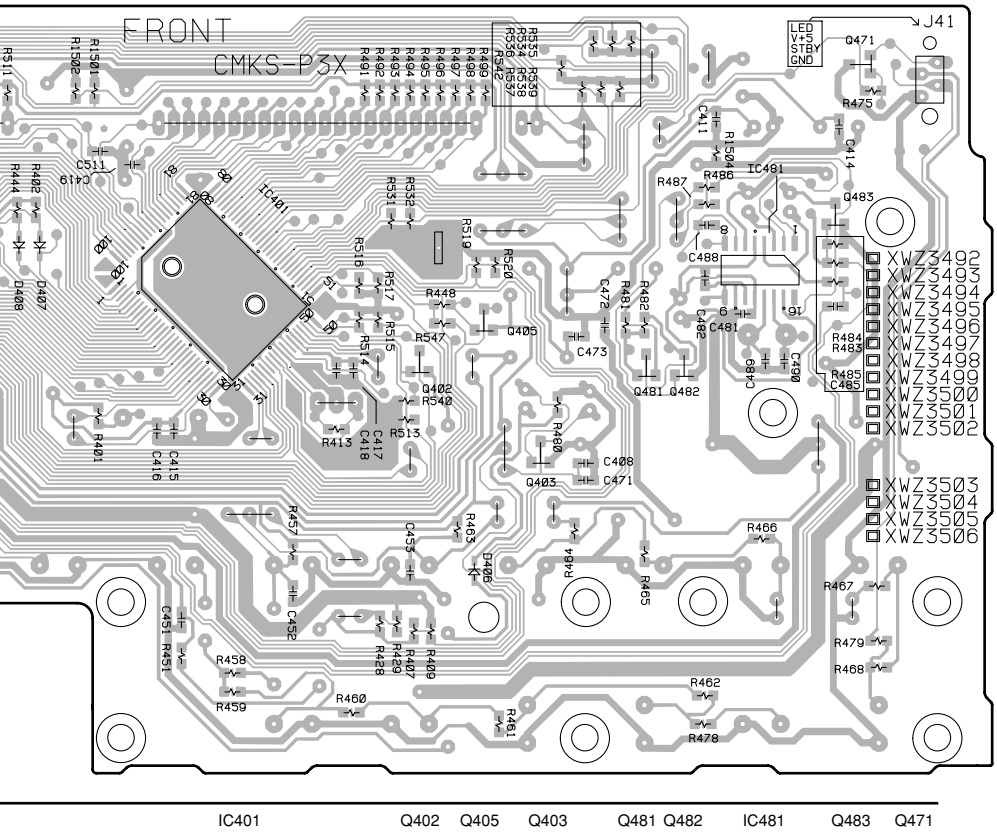
(XNP3052-B)

C

D

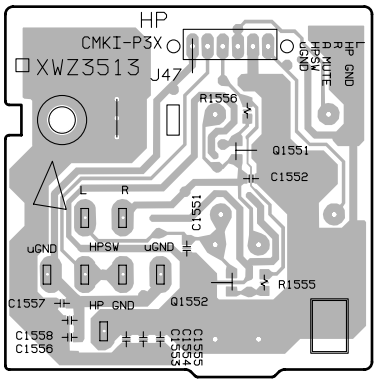
O P

SIDE B

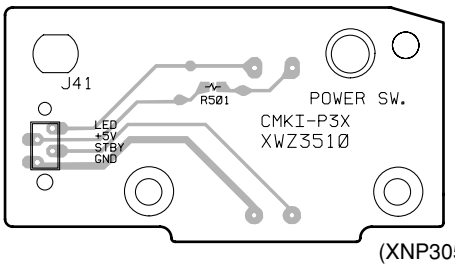


(XNP3052-B)

U H.P ASSY



(XNP3052-B)



(XNP3052-B)

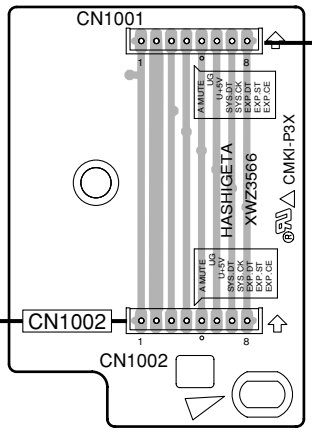
Q POWER SW ASSY

4.5 REGULATOR, HASHIGETA and KAWA ASSYS

SIDE A

SIDE A

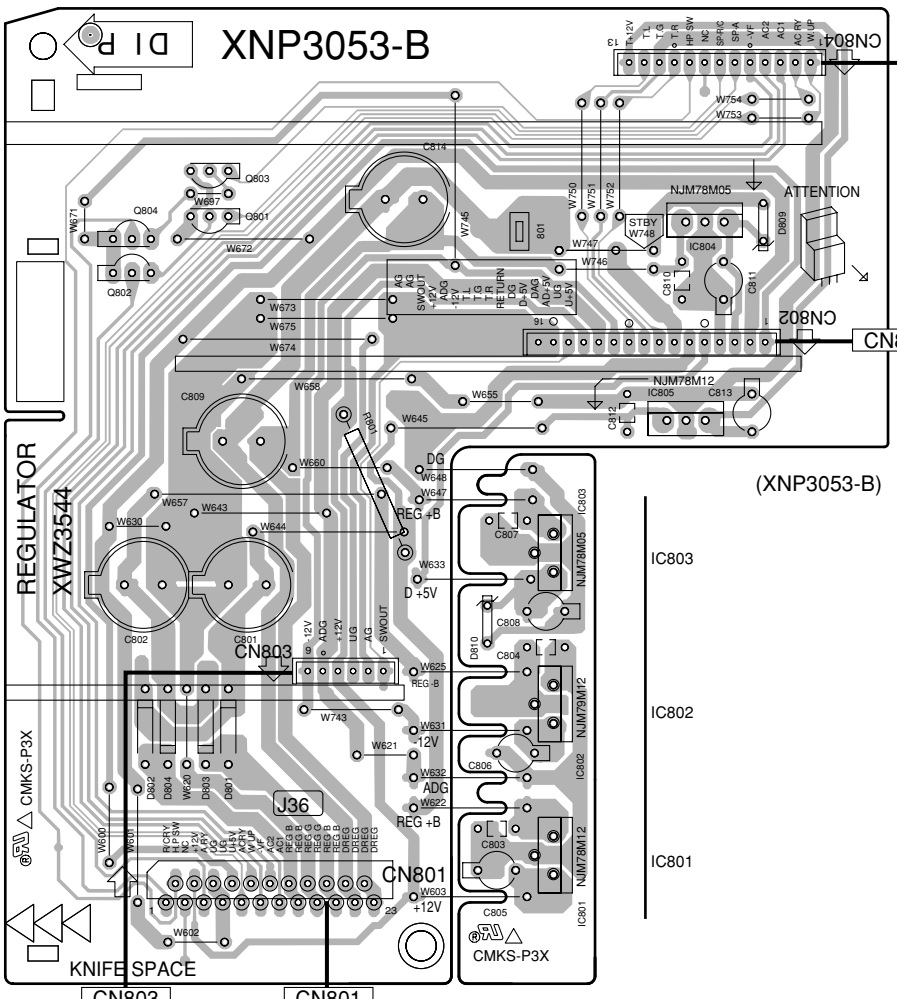
F HASHIGETA ASSY



A CN105

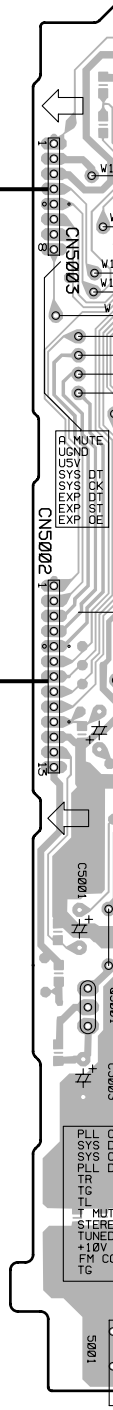
(XNP3053-B)

E REGULATOR ASSY



A CN101

(XNP3053-B)

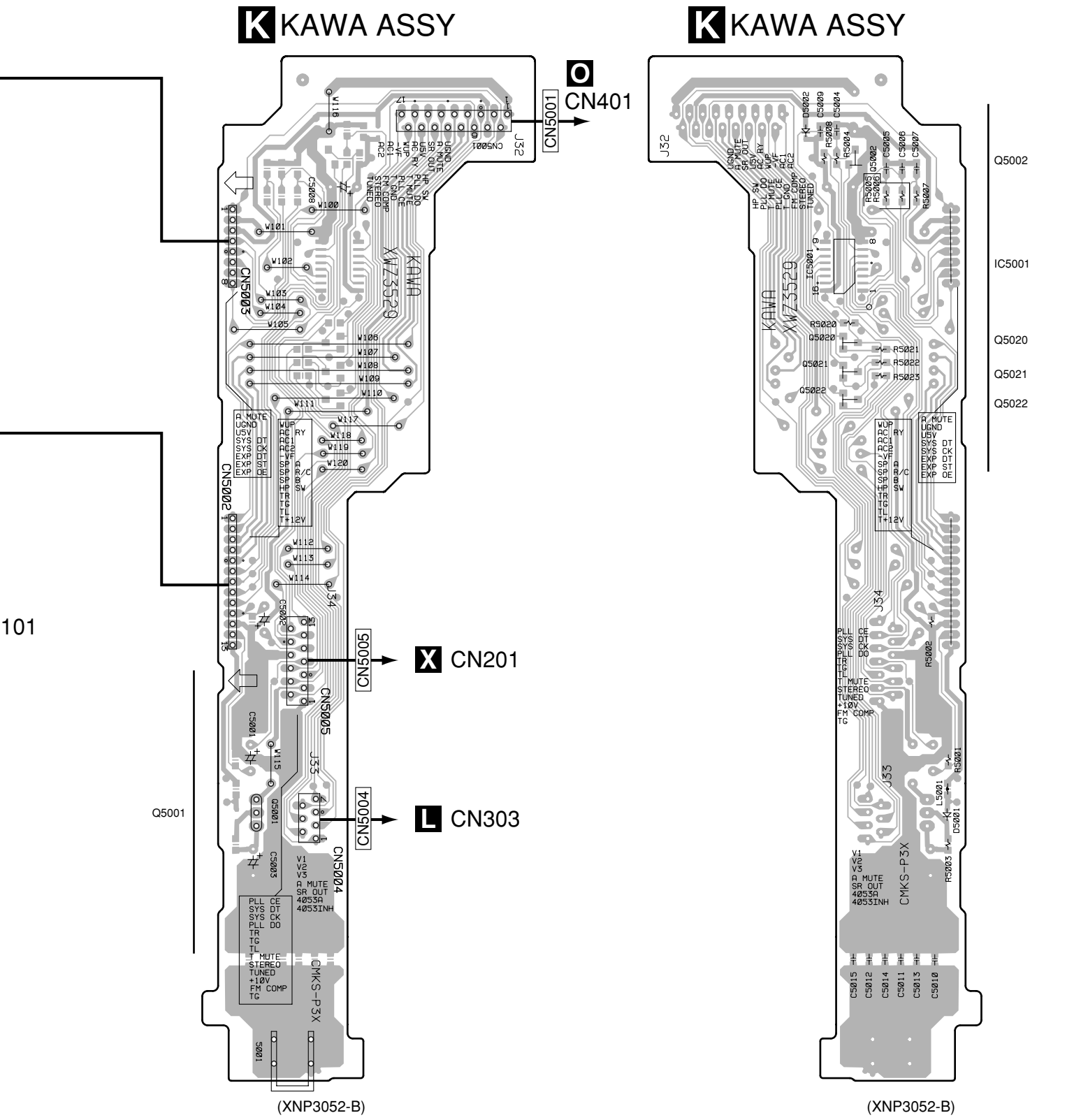


CN803 CN801

L CN302 **B** CN53

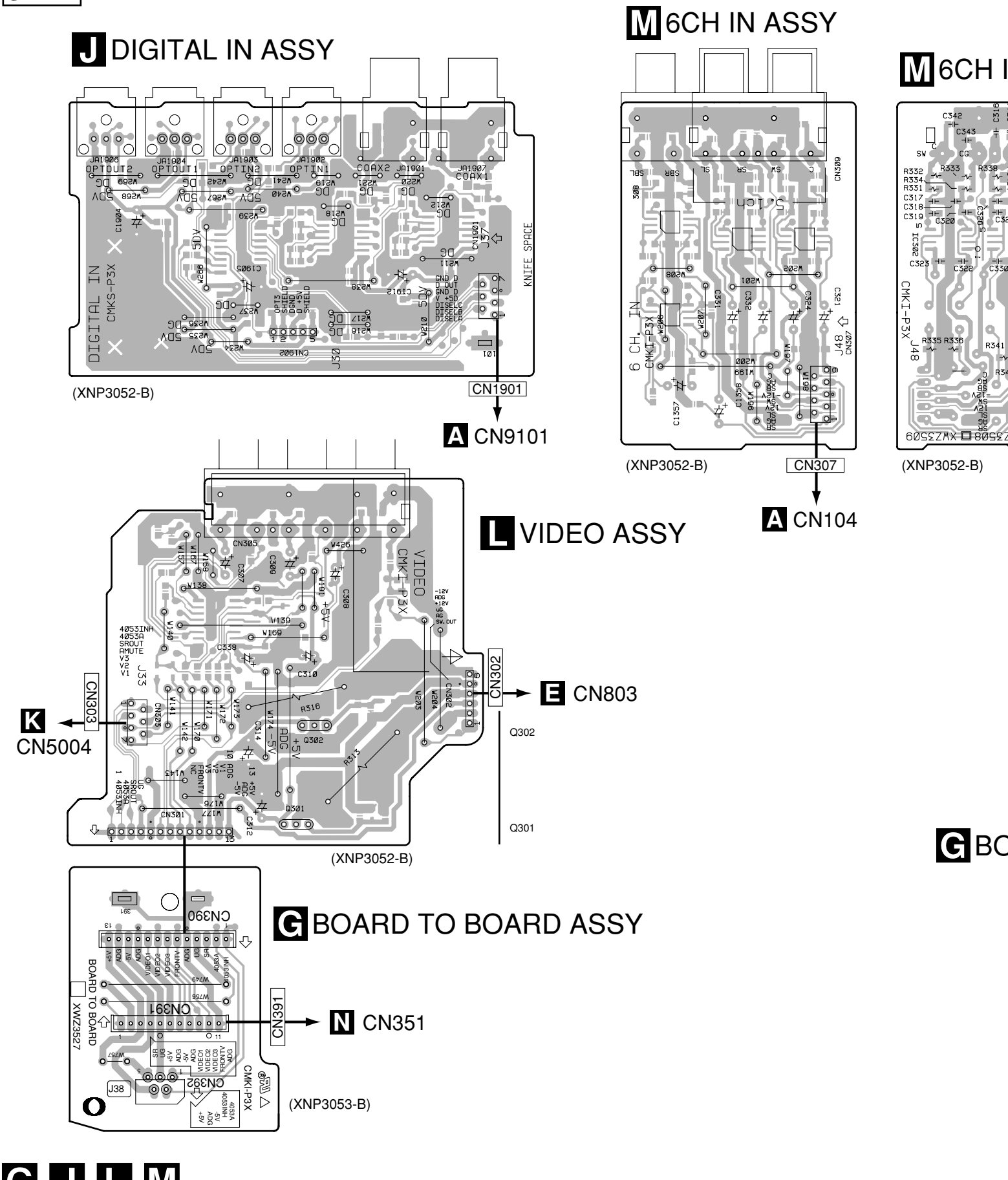
E **F**

SIDE A **SIDE B**


K KAWA ASSY
K KAWA ASSY
O CN401
CN5001
X CN201
CN5005
L CN303
CN5004
CN5002
CN5003
Q5001
101
IC5001
Q5002
Q5020
Q5021
Q5022
(XNP3052-B)
(XNP3052-B)

4.6 DIGITAL IN, 6CH IN, VIDEO and BOARD TO BOARD ASSYS

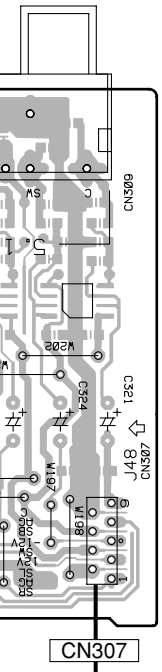
SIDE A



G J L M

SIDE B

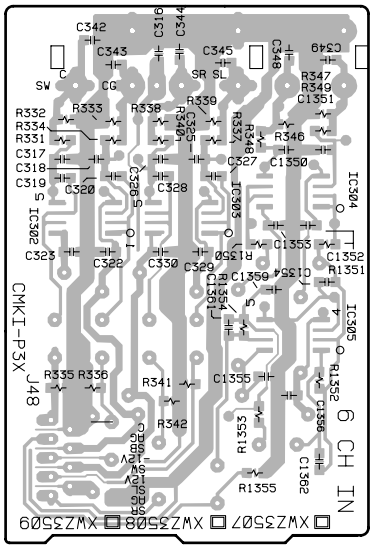
ASSY



CN307

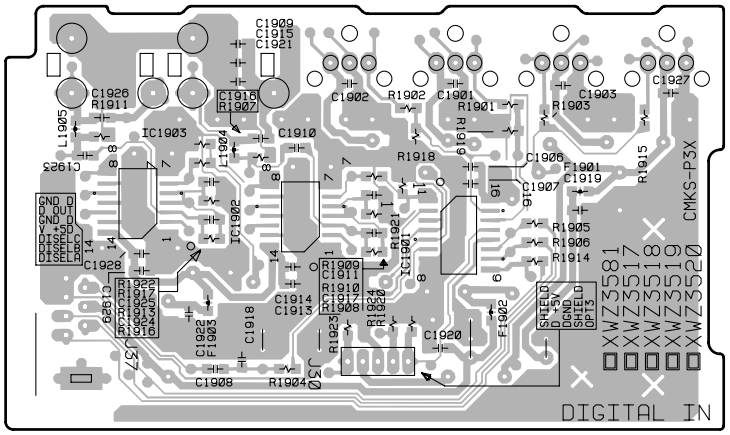
A CN104

M 6CH IN ASSY



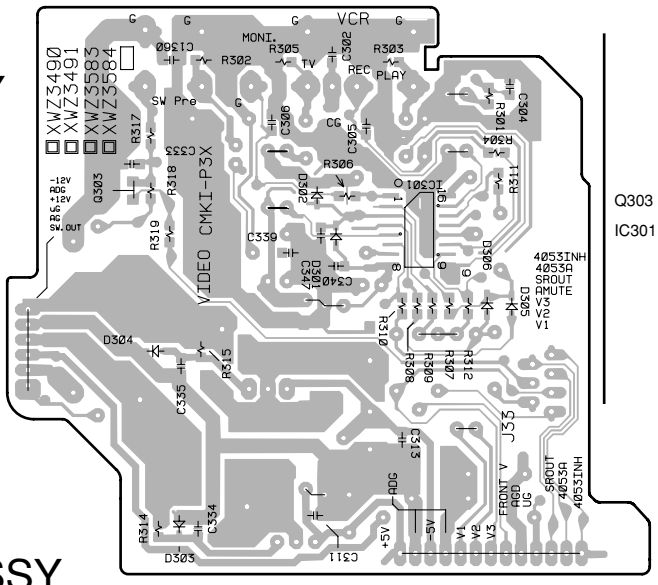
(XNP3052-B)

J DIGITAL IN ASSY



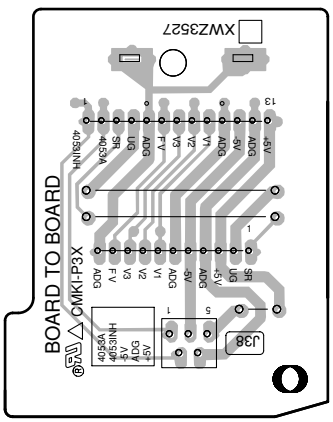
(XNP3052-B)

L VIDEO ASSY



(XNP3052-B)

G BOARD TO BOARD ASSY



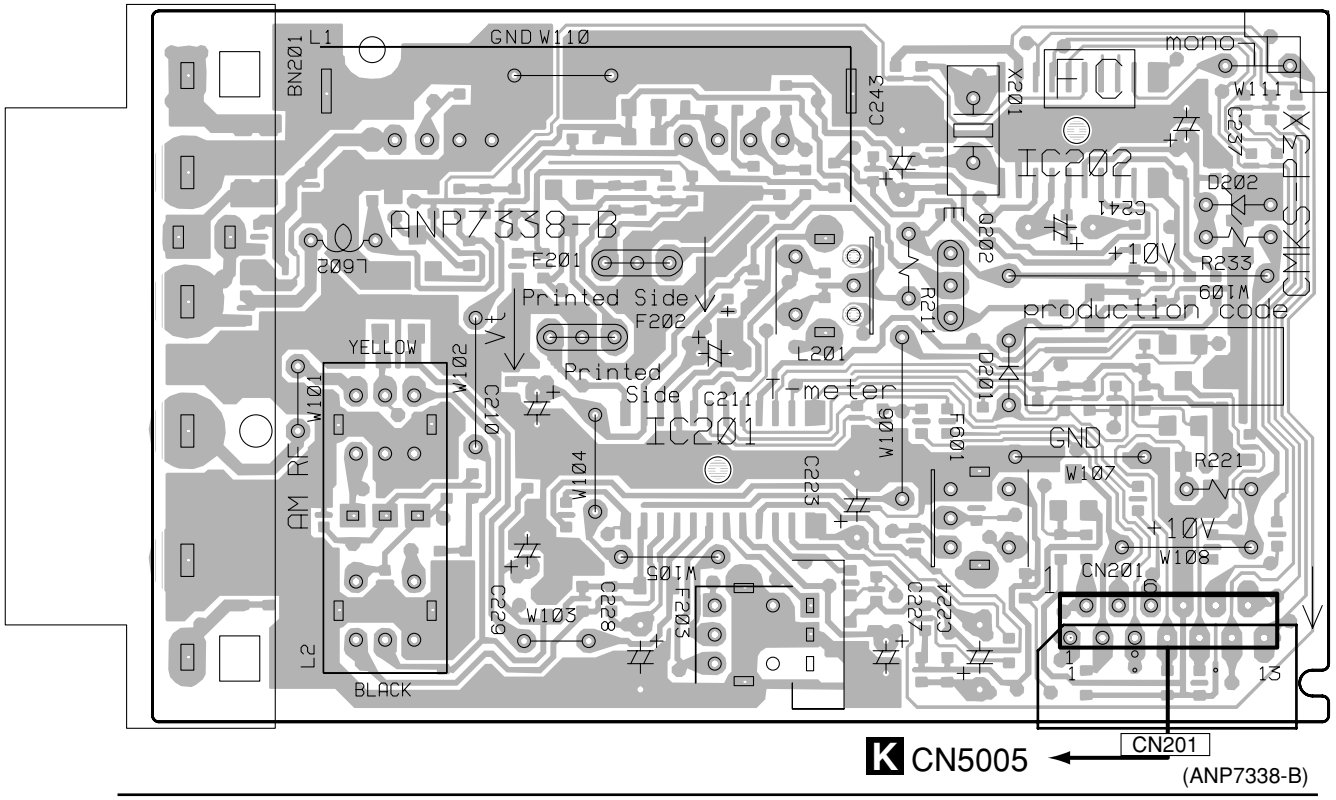
(XNP3053-B)

G J L M

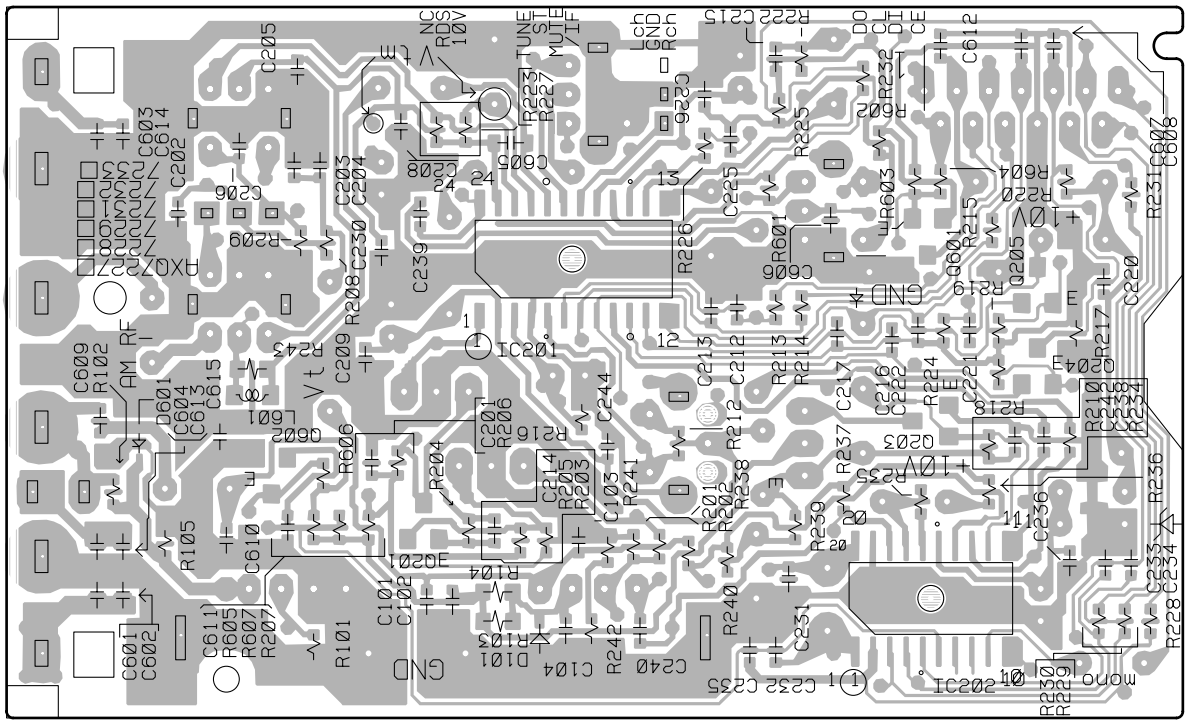
4.7 FM/AM TUNER MODULE

SIDE A **SIDE B**

X FM/AM TUNER MODULE **SIDE A**



X FM/AM TUNER MODULE **SIDE B**



X **X**

5. PCB PARTS LIST

NOTES: ● *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
● *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
● *When ordering resistors, first convert resistance values into code form as shown in the following examples.*
Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).

560 Ω	→ *56 x 10¹* →	*561*	····· *RD1/4PU 5 6 1 J*
47k Ω	→ *47 x 10³* →	*473*	····· *RD1/4PU 4 7 3 J*
0.5 Ω	→ *R50*		····· *RN2H R 5 0 K*
1 Ω	→ *1R0*		····· *RS1P 1 R 0 K*

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62k Ω	→ *562 x 10¹* →	*5621*	····· *RN1/4PC 5 6 2 1 F*

LIST OF ASSEMBLIES

Mark	No.	Description	Part No.
	1	D.D & INPUT ASSY	XWX3044
NSP	1	AMP & PS ASSY	XWK3052
	2	AMP & PRIMARY ASSY	XWZ3532
	2	REGULATOR ASSY	XWZ3544
	2	AMP INPUT ASSY	XWZ3547
NSP	2	TRANS1 ASSY	XWZ3552
	2	TRANS2 ASSY	XWZ3555
NSP	2	TRANS3 ASSY	XWZ3560
	2	HASHIGETA ASSY	XWZ3566
	2	BOARD TO BOARD ASSY	XWZ3527
NSP	1	COMPLEX ASSY	XWK3037
	2	FRONT ASSY	XWZ3492
	2	6CH IN ASSY	XWZ3507
	2	POWER SW ASSY	XWZ3510
	2	H.P. ASSY	XWZ3513
	2	DIGITAL IN ASSY	XWZ3517
	2	S. VIDEO ASSY	XWZ3521
	2	KAWA ASSY	XWZ3529
	2	R. ENCODER ASSY	XWZ3511
	2	VIDEO ASSY	XWZ3490
	1	FM/AM TUNER MODULE	AXQ7231

COMPLEX ASSY

OTHERS

Mark	No.	Description	Part No.
		J 41 (JUMPER WIRED)	D15A04-100-2651
		J 42 (JUMPER WIRED)	D15A07-075-2651
		J 47 (JUMPER WIRED)	D20PYY0630E

AMP & PS ASSY

OTHERS

Mark	No.	Description	Part No.
		J 701 (AWG14 BOARD IN)	DB812NBO
		J 21 (JUMPER WIRED)	D20PYY0715E

A D.D & INPUT ASSY

SEMICONDUCTORS

Mark	No.	Description	Part No.
		IC9101	AK4586VQ
		IC301	BU4094BCF
		IC9501	CS493292
		IC103	M62446FP
		IC9201	NJM2100M
		IC9812	NJM2391DL1-25
		IC9811	NJM2391DL1-33
		IC102	NJU7312AM
		IC9601	NJU7313AM
		IC9504	PD8097A
		IC9505	TC74LVX244FT
		IC9502, IC9503	TC74VHC574F
		IC9506	TC74VHCT244AFT
		IC9507	TC7WU04FU
		IC101	TC9273F-007
		IC104-IC107, IC9701-IC9705, IC9707	UPC4570G2
		Q107-Q112, Q9201, Q9202	2SC3326
		Q9101, Q9204, Q9607, Q9609, Q9610	DTA124EK
		Q9102, Q9203, Q9608	DTC124EK
		D9601, D9602	1SS181
		D105, D106, D301, D9921	1SS355
		D107, D108	DAN217
		D201, D202	RB501V-40
		D104	UDZS5.1B
		D101, D102	UDZS6.8B

COILS AND FILTERS

Mark	No.	Description	Part No.
		L9101, L9501, L9504, L9811, L9812	ATL7002
		L111-L114, L1601, L1602	QTL1013
		L9102, L9103, L9502, L9503	QTL1013
		L9506, L9507	QTL1013

CAPACITORS

Mark	No.	Description	Part No.
		C9510, C9511	CCSRCH100D50
		C101-C114, C121-C123	CCSRCH101J50
		C126-C128, C152-C154	CCSRCH101J50
		C207, C208, C221, C222	CCSRCH101J50
		C228, C229, C9160, C9201, C9202	CCSRCH101J50
		C9101, C9102	CCSRCH220J50
		C235, C9117	CCSRCH221J50
		C9509	CCSRCH271J50
		C9530, C9731, C9735	CCSRCH331J50
		C9103, C9110, C9111, C9114, C9503	CCSRCH471J50
		C9505, C9507, C9513, C9515, C9518	CCSRCH471J50
		C9520, C9522, C9525, C9528, C9571	CCSRCH471J50
		C9611-C9614, C9625, C9639, C9729	CCSRCH471J50
		C9815, C9816	CCSRCH471J50
		C9707, C9708, C9721, C9722	CCSRCH820J50
		C130-C137, C146-C151, C305	CEAT100M50
		C9207, C9208, C9523, C9526	CEAT100M50
		C9105, C9106, C9108, C9116, C9516	CEAT101M10
		C9551, C9792, C9812, C9814	CEAT101M10
		C9740	CEAT220M25
		C9205	CEAT221M6R3
		C9112, C9529, C9769, C9770	CEAT2R2M50
		C9713, C9714, C9727, C9728, C9739	CEAT330M25

Mark	No.	Description	Part No.
	C9765-C9768		CEAT330M25
	C144, C145		CEAT3R3M50
	C117, C118, C225, C226		CEAT470M50
	C232, C233, C239		CEAT470M50
	C155, C156		CEAT471M10
	C115, C116, C234, C240		CEAT4R7M50
	C9203, C9204, C9615-C9618, C9811		CEAT4R7M50
	C9813		CEAT4R7M50
	C271, C9703, C9704, C9717, C9718		CKSRYB102K50
	C119, C120, C124, C125, C138		CKSRYB103K50
	C141, C171, C172, C179, C180		CKSRYB103K50
	C183, C199, C223, C224		CKSRYB103K50
	C230, C231, C237, C238, C304		CKSRYB103K50
	C9104, C9107, C9109, C9121, C9209		CKSRYB103K50
	C9502, C9504, C9506, C9508, C9512		CKSRYB103K50
	C9514, C9517, C9519, C9521, C9524		CKSRYB103K50
	C9527, C9531, C9584, C9636, C9637		CKSRYB103K50
	C9709-C9712, C9723-C9726		CKSRYB103K50
	C9737, C9738, C9817		CKSRYB103K50
	C140, C143, C1631, C1632		CKSRYB104K16
	C173, C174, C9113, C9115, C9126		CKSRYB104K16
	C9206, C9818		CKSRYB104K16
	C9701, C9702, C9715, C9716		CKSRYB222K50
	C9736		CKSRYB223K25
	C139, C142, C9626		CKSRYB223K50
	C236		CKSRYB472K50
	C184, C185, C9732		CKSRYB473K25
	C227, C9730		CKSRYF104Z25

RESISTORS

	R9104	RS1/16S1802F
⚠	R174, R175	RS1LMF101J
	OtherResistors	RS1/16S###J

OTHERS

	CN9101 7P FFC CONNECTOR	52044-0745
	CN104 9P FFC CONNECTOR	52044-0945
	CN106 19P FFC CONNECTOR	52045-1945
	CN102 28P FFC CONNECTOR	52045-2845
	JA103, JA104 4P PIN JACK	AKB7048
	JA105 6P PIN JACK	AKB7050
	CN101 16P SOCKET	KP200TA16L
	CN105 8P SOCKET	KP200TA8L
	X9501 (CRYSTAL RES. 27.0MHz)	VSS1086
	X9101 (CRYSTAL RES. 12.3MHz)	VSS1140

B AMP & PRIMARY ASSY

SEMICONDUCTORS

⚠	IC603	AEK7009
⚠	IC701, IC702	AEK7020
⚠	IC604-IC607	AEK7022
	IC51	NJM78M56FA
⚠	IC601	PAC010A
⚠	IC602	PAC011A
	Q703	2SA1145
	Q702	2SA1837
	Q691, Q692	2SC1740S
	Q704	2SC1845
	Q605, Q606, Q633, Q655, Q656	2SC2240
	Q601-Q604, Q631, Q632	2SC2878
	Q651-Q654	2SC2878
	Q701	2SC4793
	Q51	KRC101M
	D56, D601-D604, D631, D632	1SS133
	D651-D654, D752, D756	1SS133
⚠	D701, D702	D5SBA20(B)
	D605, D606, D633, D634	MTZJ16A
	D711	MTZJ22D
	D58	MTZJ5.1A
	D712	MTZJ5.1B
⚠	D51-D55, D721-D724	S5688G

COILS AND FILTERS

⚠	L51	ATF7018
	L751-L753, L761, L762	ATH1004

SWITCHES AND RELAYS

	RY751-RY753	XSR3002
⚠	RY51	XSR3003

CAPACITORS

	C707, C708	ACG1005
⚠	C51, C52	ACG7020
	C703, C704	ACH7135
	C701, C702	ACH7137
	C607-C610, C634, C635	CCPUCH6R8K50
	C657-C660	CCPUCH6R8K50
	C615, C616, C638, C665, C666	CEANP2R2M50
	C775, C776	CEANP470M50
	C705, C706	CEAT100M2A
	C712	CEAT101M10
	C611, C612, C636, C661, C662	CEAT101M16
	C711	CEAT101M35
	C53	CEAT102M16
	C692	CEAT221M10
	C54	CEAT470M25
	C605, C606, C633, C655, C656	CEAT4R7M50
	C751, C752, C755, C761, C762	CFTYA104J50
	C601, C602, C631, C651, C652	CKPUYB102K50
	C691	CKPUYB102K50
	C603, C604, C632, C653, C654	CKPUYB331K50
	C55-C57	CKPUYF103Z25

RESISTORS

⚠	R51	RCN1080
⚠	R52	RD1/2PM270J
⚠	R751, R752, R755, R761, R762	RD1/4PUF101J
⚠	R753, R754, R756, R763, R764	RS1LMF4R7J
⚠	R711	RS2LMF392J
⚠	R615, R616, R638, R665, R666	XCN3001
	OtherResistors	RD1/4PU###J

OTHERS

	CN53(23P FFC CONNECTOR)	52045-2345
	CN702(6P CONNECTOR)	52147-0610
	51(1P AC SOCKET)	AKP1060
	H51-H54 , H701, H702(FUSE CLIP)	AKR7001
⚠	T51(SUB TRANS FORMER)	ATT7057
	CN601(16P PLUG)	KM200TA16
	CN51(AC INLET)	RKP1751
	KN51,KN601 (EARTH METAL FITTING)	VNF1084
	CN752(4P SPEAKER TERMINAL)	XKE3010
	CN751(6P SPEAKER TERMINAL)	XKE3012

Mark No.	Description	Part No.
	701 7P CABLE HOLDER	XKP3047
	J21 20P JUMPER WIRE	D20PYY0715E
	J6 JUMPER WIRE	DB215NB0

C TRANS 2 ASSY

SEMICONDUCTORS

⚠	IC851-IC853	AEK7012

OTHERS

	851	XKP3047

D TRANS 3 ASSY

TRANS3 ASSY has no service part.

E REGULATOR ASSY

SEMICONDUCTORS

	IC803, IC804	NJM78M05FA
	IC801, IC805	NJM78M12FA
	IC802	NJM79M12FA
	Q801, Q803	KRA103M
	Q802, Q804	KRC102M
	D809, D810	MTZJ6.2A
⚠	D801-D804	S5688G

CAPACITORS

	C808, C811	CEAT101M10
	C805, C806, C813	CEAT101M16
	C801, C802	CEAT222M25
	C809	CEAT332M16
	C803, C804, C807, C810, C812	CKPUYF103Z25

OTHERS

	CN801(23P CONNECTOR)	52045-2345
	CN804 (13P PLUG)	KM200TA13
	CN802 (16P PLUG)	KM200TA16
	CN803 (6P PLUG)	KM200TA6

F HASHICETA ASSY

OTHERS

	CN1001, CN1002(8P PLUG)	KM200TA8

G BOARD TO BOARD ASSY

OTHERS

	CN391 (11P PLUG)	KM200TA11
	CN390 (13P PLUG)	KM200TA13

H AMP INPUT ASSY

OTHERS

	CN254 (19P FFC SOCKET)	52044-1945
	CN253 (16P SOCKET)	KP200TA16L

I TRANS1 ASSY

TRANS1 ASSY has no service part.

J DIGITAL IN ASSY

SEMICONDUCTORS

	IC1901	TC74ACT151F
	IC1903	TC74HCU04AF

COILS AND FILTERS

	F1901-F1903	DTF1067
	L1905	QTL1013

CAPACITORS

	C1918	CCSRCH221J50
	C1907, C1928	CCSRCH271J50
	C1925	CCSRCH470J50
	C1926	CCSRCH471J50
	C1904, C1905, C1912	CEAT101M10
	C1915	CKSRYB102K50
	C1906, C1919, C1920, C1923, C1929	CKSRYB103K50
	C1902, C1908, C1909, C1921, C1922	CKSRYB104K25

RESISTORS

	OtherResistors	RS1/16S###J

OTHERS

	CN1901(7P FFC CONNECTOR)	52045-0745
	JA1902 (REMOTE RECEIVER UNIT)	JFJ4000-010020
	JA1907 (1P PIN JACK)	VKB1077

K KAWA ASSY

SEMICONDUCTORS

	IC5001	BU4094BCF
	Q5001	2SC1740S
	Q5020-Q5022	DTC124EK
	Q5002	DTC143EK
	D5001, D5002	1SS355

COILS AND FILTERS

	L5001	QTL1013

CAPACITORS

	C5004-C5007	CCSRCH101J50
	C5012	CCSRCH471J50
	C5001, C5002	CEAT100M50
	C5003	CEAT101M16
	C5009	CKSRYB103K50
	C5011	CKSRYB104K16
	C5010	CKSRYF105Z10

RESISTORS

	All Resistors	RS1/16S###J

OTHERS

	CN5004 (7P FFC CONNECTOR)	52044-0745
	CN5005 (13P FFC CONNECTOR)	52044-1345
	CN5001 (17P FFC CONNECTOR)	52044-1745
	CN5002 (13P SOCKET)	KP200TA13L
	CN5003 (8P SOCKET)	KP200TA8L
	5001 (SCREW TERMINAL)	VNE1948

L VIDEO ASSY

SEMICONDUCTORS

	IC301	NJM2296M
	Q302	2SA1515
	Q303	2SC3326
	Q301	2SC3377
	D301, D302, D305, D306	1SS355
	D303, D304	UDZS6.2B

CAPACITORS

	C347	CCSRCH470J50
	C307-C310, C312, C314, C338	CEAT470M25

Mark No.	Description	Part No.
	C1360, C302	CKSRYB103K50
	C339, C340	CKSRYB104K25
	C304-C306	CKSRYB221K50
	C333	CKSRYB331K50
	C311, C313	CKSRYB473K25
	RESISTORS	
⚠	R313, R316	RS3LMF560J
	OtherResistors	RS1/16S###J
	OTHERS	
	CN303 (7P CONNECTOR)	52044-0745
	CN305 (6P PIN JACK)	AKB7123
	CN301 (13P SOCKET)	KP200TA13L
	CN302 (6P SOCKET)	KP200TA6L

M 6CH IN ASSY

	SEMICONDUCTORS	
	IC302, IC303	NJM4558MD
	CAPACITORS	
	C319, C320, C327, C328	CCSRCH101J50
	C342-C345	CCSRCH101J50
	C321, C324, C331, C332	CEAT4R7M50
	C316, C322, C323, C329, C330	CKSRYB103K50
	C317, C318, C325, C326	CKSRYB221K50
	RESISTORS	
	All Resistors	RS1/16S###J
	OTHERS	
	CN307 (9P CONNECTOR)	52044-0945
	CN309 (6P PIN JACK)	AKB7087

N S.VIDEO ASSY

	SEMICONDUCTORS	
	IC351, IC352	NJM2296M
	D351-D354	1SS355
	CAPACITORS	
	C375, C376	CCSRCH470J50
	C352, C355, C358, C361-C363	CEAT470M25
	C366	CEAT470M25
	C372, C373, C378	CKSRYB103K50
	C351, C353, C354, C356, C357	CKSRYB104K25
	C359, C367	CKSRYB104K25
	C364, C365, C368-C371	CKSRYB221K50
	RESISTORS	
	All Resistors	RS1/16S###J
	OTHERS	
	CN353 (4Px2 MINI DIN SOCKET)	AKP7020
	CN352 (4Px3 MINI DIN SOCKET)	AKP7043
	CN351 (11P SOCKET)	KP200TA11L
	JA351 (REMOTE JACK)	RKN1004

O FRONT ASSY

	SEMICONDUCTORS	
	IC401	PDG268B
	Q401, Q402, Q442, Q471	DTA124EK
	Q403, Q441	DTC143EK
	D406, D410, D442	1SS355
	D403, D405	DAN217
	D401, D404	DAP202K
	D407, D408	RB501V-40
	COILS AND FILTERS	
	L401	LFEA2R2J
	SWITCHESANDRELAYS	
	S451-S468, S476	ASG1051
	CAPACITORS	
	C420 (220mF/35V)	ACH7101
	C404 (0.047F/5.5V)	ACH7132
	C511	CCSRCH471J50
	C442	CEAL470M10
	C402	CEAT221M6R3
	C409, C410	CEAT2R2M50
	C412	CEAT470M50
	C405	CEAT471M6R3
	C451-C453, C472, C492, C495	CKSRYB102K50
	C401, C403, C411, C419, C441	CKSRYB103K50
	C531	CKSRYB103K50
	C408, C416, C418, C471	CKSRYB104K16
	C406, C407	CKSRYB473K16
	RESISTORS	
	All Resistors	RS1/16S###J
	OTHERS	
	471 (4P CABLE HOLDER)	51063-0405
	404 (7P CABLE HOLDER)	51063-0705
	CN401 (17P FFC CONNCTOR)	52044-1745
	CN402 (28P FFC CONNCTOR)	52044-2845
	V401 (FL TUBE)	XAV3013
	401 (REMOTE CONTROL UNIT)	GP1U27X
	J41 (4P JUMPER WIRE)	D15A04-100-2651
	J42 (7P JUMPER WIRE)	D15A07-075-2651
	X401 CERAMIC RESO.(7.2MHz)	ASS7039

P R.ENCODER ASSY

	SWITCHESANDRELAYS	
	S511	ASG1051
	S513 (ROTARY ENCODER)	XSX3005
	S512 (ROTARY ENCODER)	XSX3006
	OTHERS	
	511 (7P CABLE HOLDER)	51063-0705

Q POWER SW ASSY

	SEMICONDUCTORS	
	D501	BR3371XJ30A
	SWITCHESANDRELAYS	
	S501	ASG1051
	RESISTORS	
	All Resistors	RS1/16S###J
	OTHERS	
	501(CABLEB HOLDER 4P)	51063-0405

U H.P. ASSY

	SEMICONDUCTORS	
	Q1551, Q1552	2SC3326
	CAPACITORS	

Mark No.	Description	Part No.
C1554, C1557		CCSRCH471J50
C1553, C1556		CKSRYB103K50
C1555, C1558		CKSRYB104K16
C1551, C1552		CKSRYB223K50

RESISTORS

⚠	R1553, R1554	RS1LMF471J
⚠	R1551, R1552	RS2LMF331J
	Other Resistors	RS1/16S###J

OTHERS

1551 (6P CABLE HOLDER)	51048-0600
JA1551 (HEADPHONE JACK)	RKB1014
KN1551 (EARTH METAL FITTING)	VNF1084
J47	D20PYY0630E

X FM/AM TUNER MODULE

SEMICONDUCTORS

IC201	BA1451F
IC202	LC72131MD
Q201, Q204, Q205	2SC2412K
Q202	DTA124ES
Q203	DTC124EK
D201	1SS133
D202	MTZJ5.1C

COILS AND FILTERS

L201 (FM DETECTOR COIL)	ATE7003
F202 (CERAMIC FILTER)	ATF-107
F201 (CERAMIC FILTER)	ATF-119
F203 (AM CERAMIC FILTER)	ATF7026

CAPACITORS

C206	CCSRCH100D50
C212, C213, C226, C233-C235	CCSRCH101J50
C240	CCSRCH101J50
C231, C232	CCSRCH150J50
C223	CEAT100M50
C229	CEAT101M10
C224	CEAT1R0M50
C227	CEAT220M25
C241	CEAT2R2M50
C243	CEAT330M16
C228	CEAT3R3M50
C237	CEAT470M10
C211	CEJA1R0M50
C210	CEJA470M16
C204, C238, C602	CKSRYB102K50
C101, C102, C208, C220, C239	CKSRYB103K50
C242, C601	CKSRYB103K50
C216, C217, C225	CKSRYB153K50
C201, C205, C209, C214, C230	CKSRYB223K50
C236, C603	CKSRYB223K50
C221	CKSRYB224K10
C202, C222	CKSRYB473K16
C215	CKSRYB681K50

RESISTORS

R211	RD1/4PU221J
R221	RD1/4PU222J
R233	RD1/4PU391J
R243	RS1/10S0R0J
R103	RS1/10S331J

Mark No.	Description	Part No.
R104		RS1/10S391J
OtherResistors		RS1/16S###J

OTHERS

CN201 (13P SOCKET)	52044-1345
BN201 (4P ANTENNA TERM.)	AKA7003
(SHIELD CASE T)	ANK7072
(SHIELD CASE B)	ANK7073
X201 (CRYSTAR RES.(7.2MHz)	ASS1093
FM FRONT END	AXF7003
AM RF TUNING BLOCK	AXX7071

6. ADJUSTMENT

Notice) Even if it removes TUNER, other functions operate.

■ AM Tuner Section

• There is no adjustment in the AM tuner.

■ FM Tuner Section

• Set the mode selector to FM BAND.
• Connect the wiring as shown in Fig. 1.

Step No.	Adjustment Title	ANT. Input level and signal condition			Adjustment	
		Frequency (MHz)	Modulation	Input Level (dBμV)	Adjust point	Contents
1	T-METER Adjustment	98	OFF	80	L201	Adjust L201 so that the DC voltage between Pin 21 and Pin 23 of IC201 (Test point Vtm) gets within 0 ± 50mV.

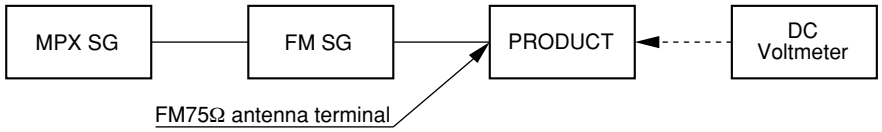


Fig.1 Adjustment Wiring Diagram

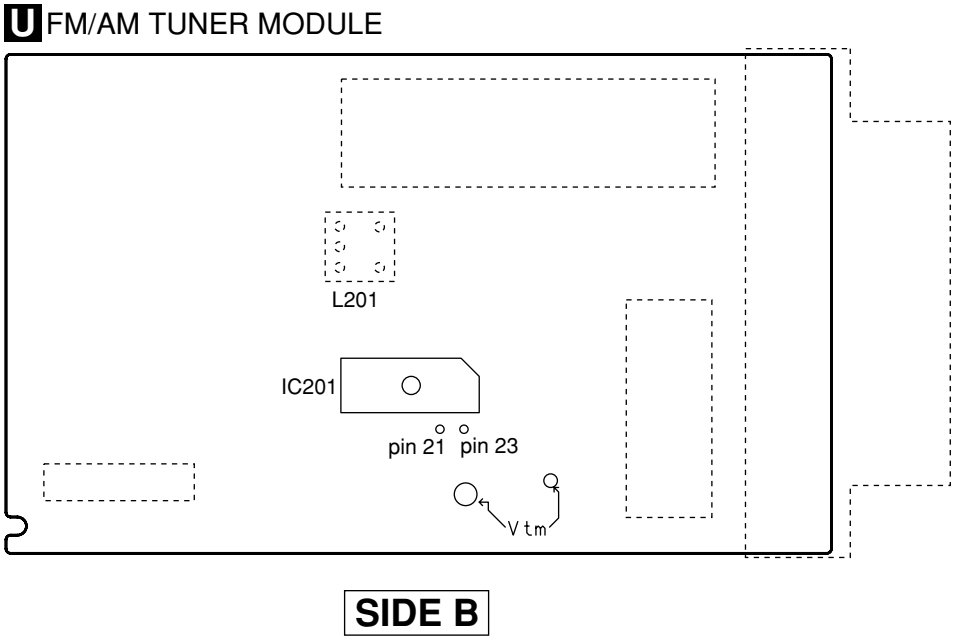


Fig.2 Adjustment Point

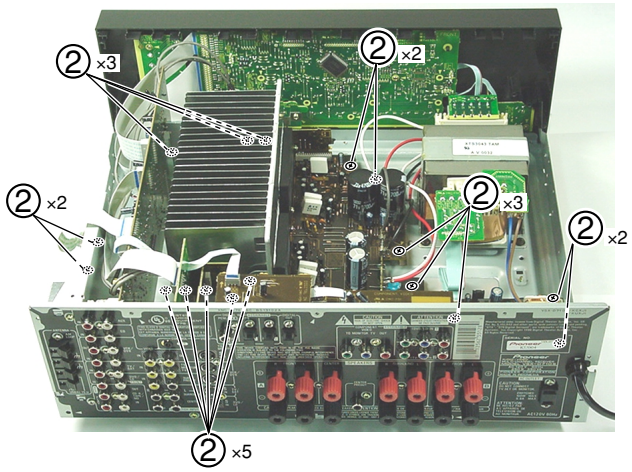
7. GENERAL INFORMATION
7.1 DISASSEMBLY and DIAGNOSI

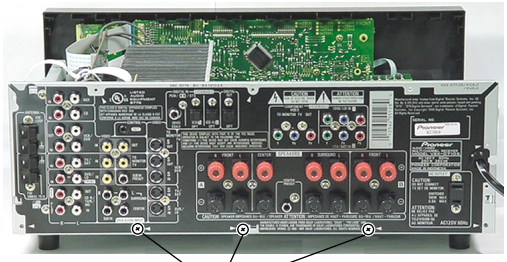
7.1.1 DISASSEMBLY and PCB LOCATION

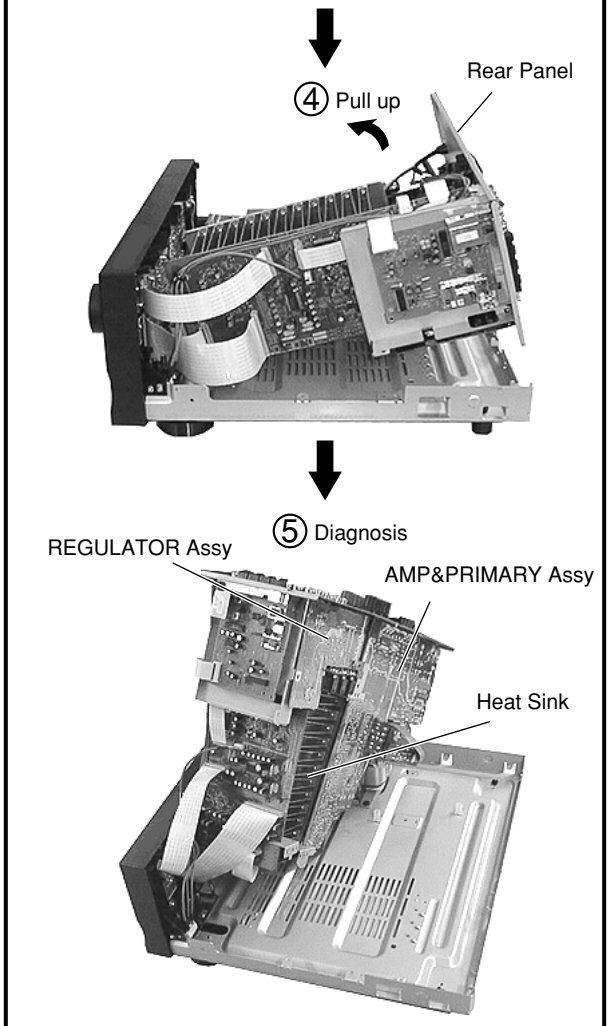
■ Disassembly

Note : This photograph shows other models.
However, the work method is the same.

① Remove the Bonnet (seven screws).



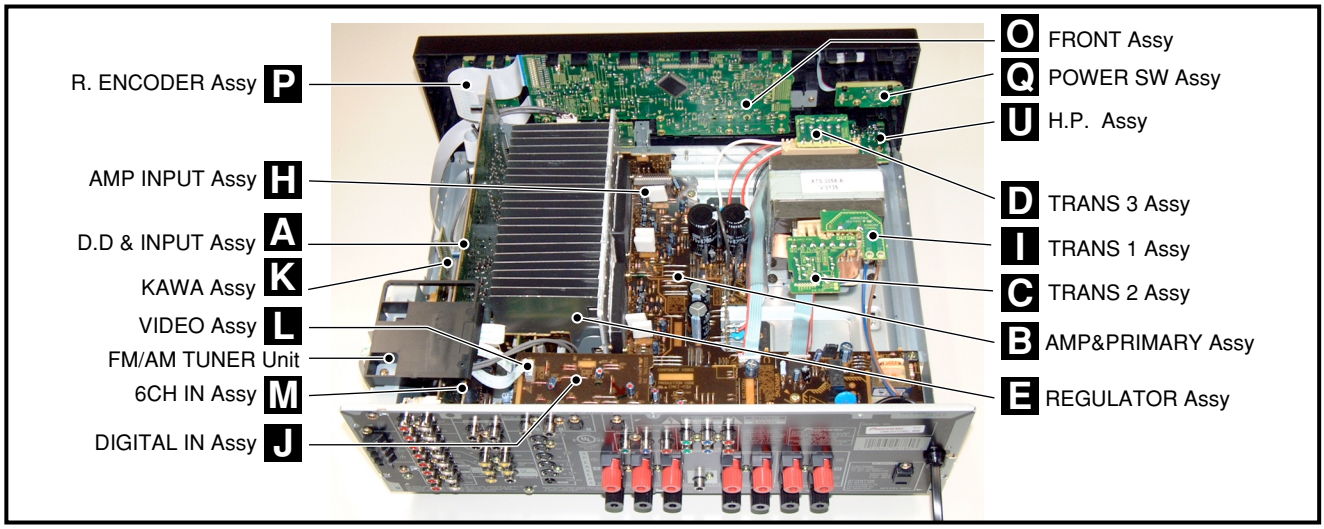




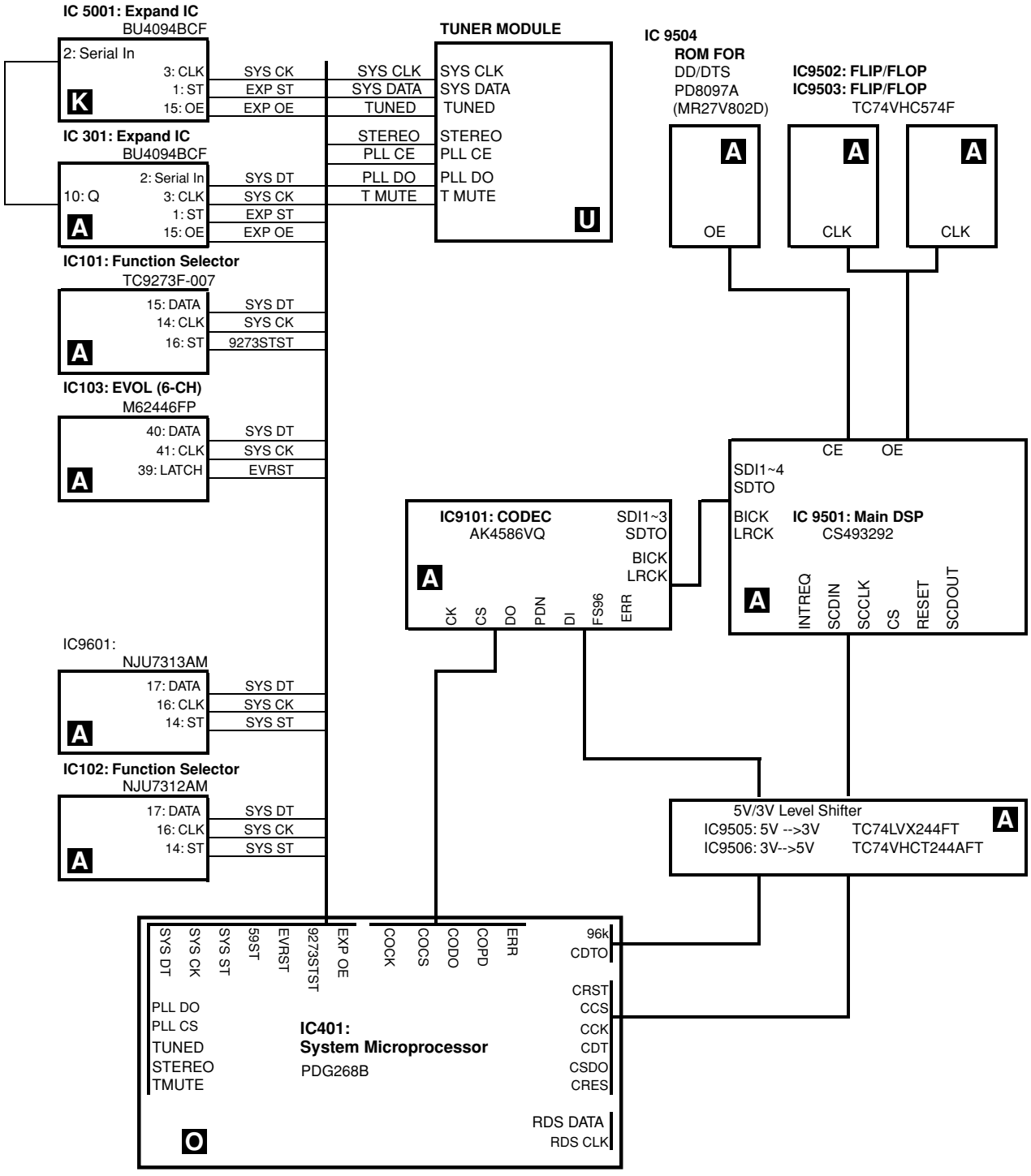
Note : If a speaker and the screw of a rear panel are removed, a set will stop moving.
Even if it removes TUNER Unit, it is uninfluential in operation of those other than TUNER Unit.

■ PCB Location

NOTE : This photograph is VSX-D711



7.1.2 U-COM BLOCKDIAGRAM



7.1.3 PROTECTION CIRCUIT

1. DC abnormal detection

It processes more preferentially than overload detection.

When detected DC abnormal, A.MUTE* is on and speaker relay is off, then flash "AMP_ERR" on display.

*A.MUTE : Audio mute command

↓

An unusual state continues for 3 seconds.

↓ continuation

A power supply is shut off.

↓

The power key cannot be effective for 60 seconds

↓ return

A program is performed from the beginning.

If the AC plug is pulled off within 60 sec, and then it is plugged in again, the unit will be reset for 60 se

2. Overload detection

When detected overload, A.MUTE* is on and speaker relay is off, then flash "OVERLOAD" on display.

↓

An unusual state continues for 3 seconds.

↓ continuation

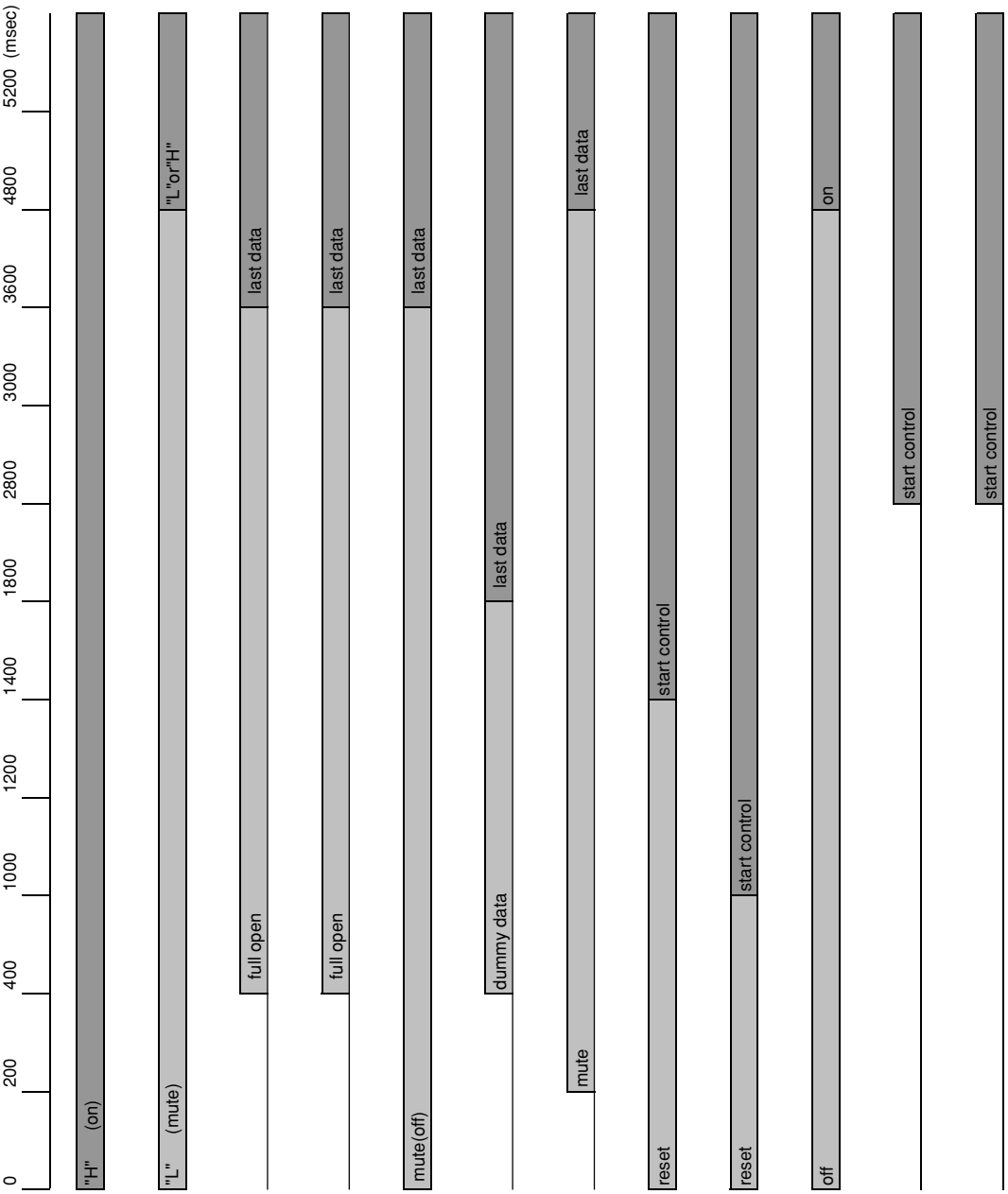
A power supply is shut off.

↓ return

A power supply is shut off even if it returns.

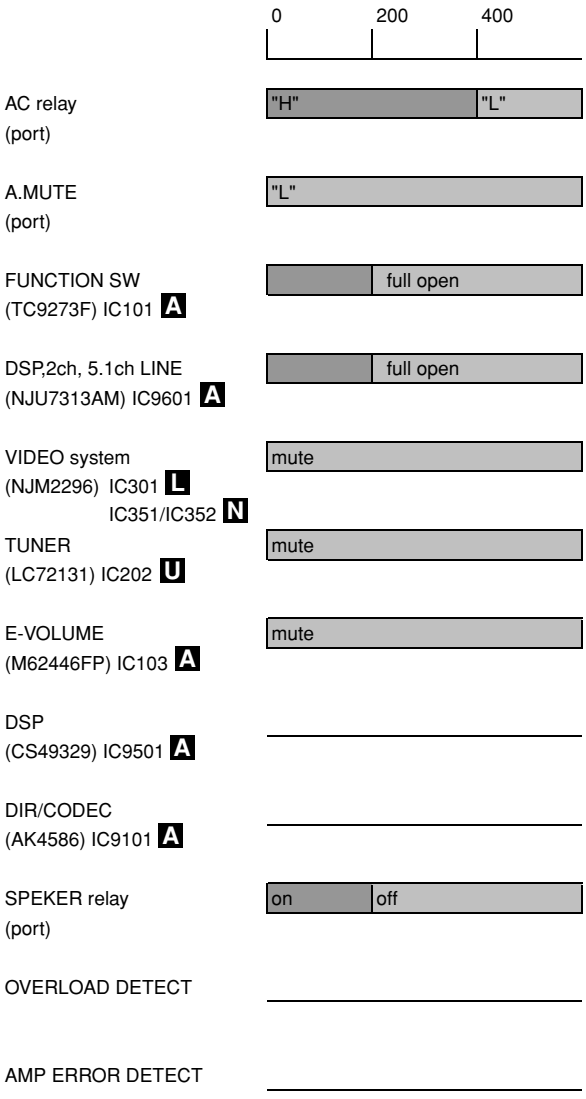
7.1.4 POWER ON SEQUENCE

■ POWER ON SEQUENCE



7.1.5 POWER OFF SEQUENCE

■ POWER OFF SEQUENCE



7.2 PARTS
7.2.1 IC

• The information shown in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.

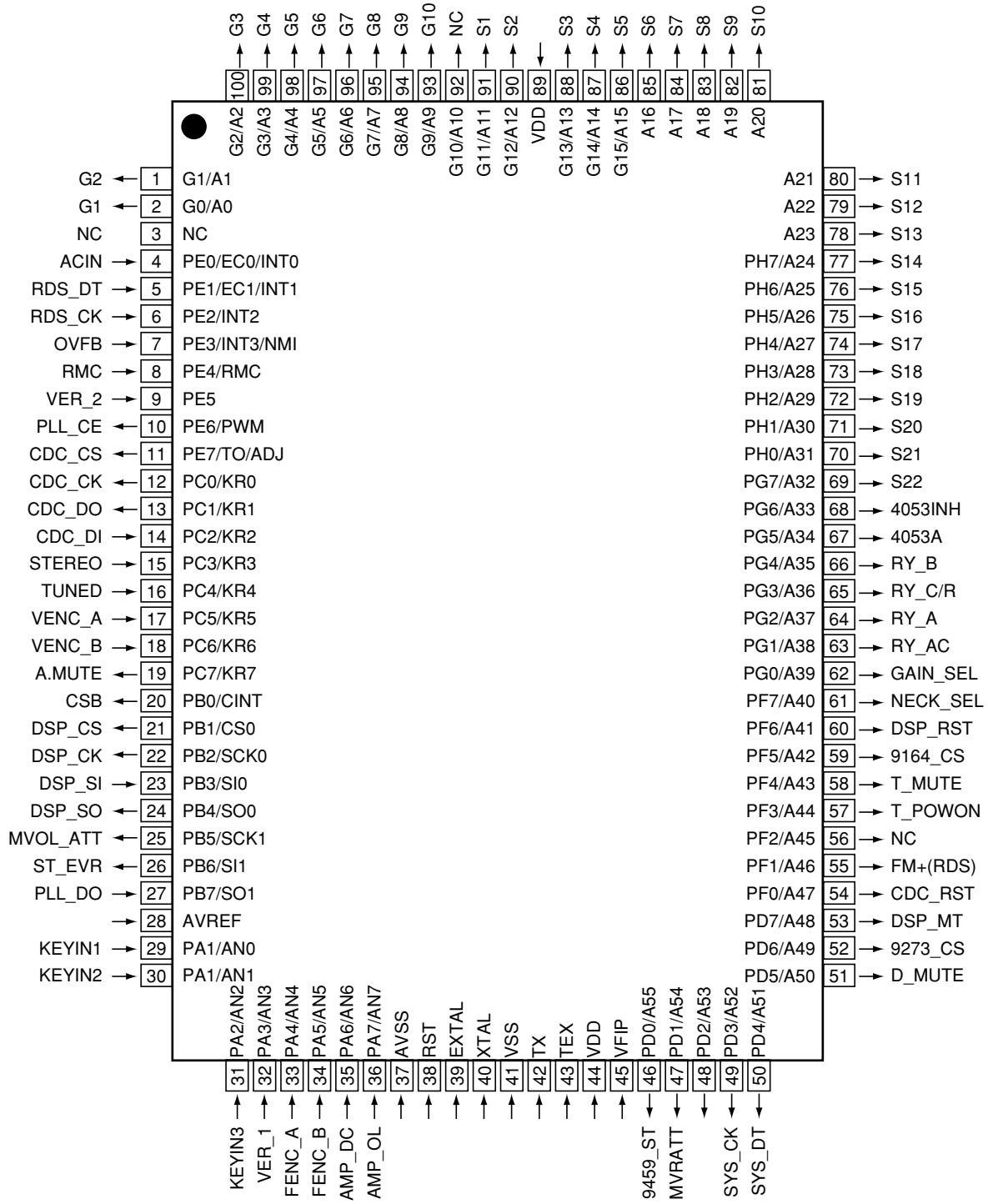
• **List of IC**

PDG268A, AK4586VQ, BD3812F, NJU7312AM, PD8097A, AK4382

■ PDG268A (FRONT ASSY : IC401)

• **System Control MCU**

■ Pin Arrangement (Top View)



• Pin Function

No.	Pin Name	I/O	Pin Function	Active
1	G2	O	Grid output 2	H
2	G1	O	Grid output 1	H
3	NC	–	Connect to Vdd	
4	ACIN	I	Input AC pulse	
5	RDS_DT	I	Serial control DATA signal of RDS communication	
6	RDS_CK	I	Serial control CLOCK signal of RDS communication (Use external interrupt)	
7	DIRLOCK	I	ERR/OVER input from CODEC	
8	RMC	I	Remote control signal input (no-carrier signal)	
9	VER_2	I	Destination switch 2	
10	ST_EVR	O	Strobe of communication for E-volume	H
11	CDC_CS	O	Chip serect for CODEC	
12	CDC_CK	O	Control clock for CODEC & TC9164	
13	CDC_DO	O	Control data for CODEC & TC9164	
14	CDC DI	I	Data input from DIR	
15	STEREO	I	Signal to switch Stereo / Monoral	
16	TUNED	I	Condition of TUNED	
17	VENC_A	I	Input from rotary encoder of E-volume (A)	
18	VENC_B	I	Input from rotary encoder of E-volume (B)	
19	HP ON	I	Headphone detect	L
20	CREQ	I	Request for DSP	L
21	CCS	O	Chip select for DSP	L
22	CCK	O	Clock signal for DSP	H
23	CDT	I	DATA input signal for DSP	
24	CSDO	O	DATA output signal for DSP	H
25	FS 96	I	96 k	H
26	AMP_OL	I	Detect overload of protection circuit (L: overload)	H
27	PLL_DO	I	Data input signal for communication with LC72131 (Tuner)	
28	AVref	–	Connect to Vdd	
29	KEYIN1	I	Key input A/D conversion port 1	
30	KEYIN2	I	Key input A/D conversion port 2	
31	KEYIN3	I	Key input A/D conversion port 3	
32	VER_1	I	Input 1 to switch region (A/D input)	
33	FENC_A	I	FUNC Rotary encoder signal input (A)	
34	FENC_B	I	FUNC Rotary encoder signal input (B)	
35	AMP_DC	I	Detect trouble DC of protection circuit (L : Trouble)	L
36	VER_2	I	Input 2 to switch region (A/D input)	L
37	AVSS	–	Connect to Vss	
38	RST	–	Reset	
39	EXTAL	–	Connect to the oscillator (7.2MHz)	
40	XTAL	–		
41	VSS	–	Connect to Vss	
42	TX	–	NC	
43	TEX	–	Connect to Vss	
44	VDD	–	+5V	
45	VFDP	–	-30V	
46	9459_ST	O	Strobe for E-volume (TC9459) of SB	
47	MVRATT	O	ATT control of master volume for E-volume (less than -15dB : L)	H
48				H
49	SYS_DT	O	Data signal for communication with M62446, TC9163, TC9164 and PLL	H
50	SYS_CK	O	Clock signal for communication with M62446, TC9163, TC9164 and PLL	H

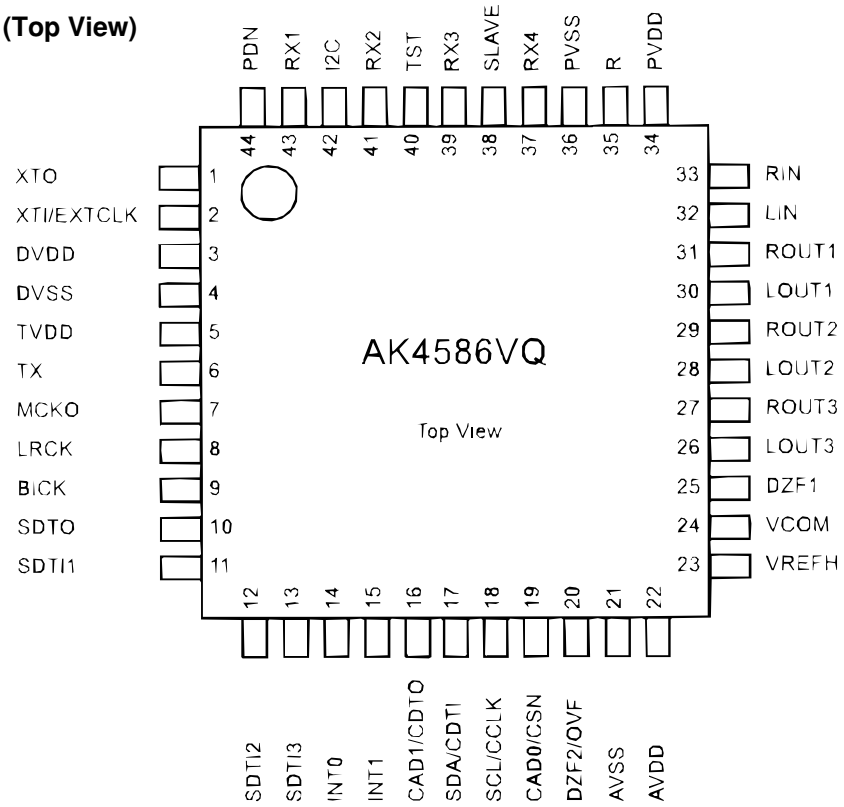
• Pin Function

No.	Pin Name	I/O	Pin Function	Active
51	9273_CS	O	Chip select for TC9273	H
52	DSP_MT	O	DSP Mute (ASSY mute)	H
53	GAIN_SEL	O	Gain select (5.1ch and Stereo of analog input : H)	H
54	AMUTE	O	Audio mute	H
55	T_MUTE	O	Tuner mute	H
56	PLL_CE	O	Chip select for communication to LC72131 (Tuner)	
57	NECK_SEL	O	5.1ch, surround mode and A+B Stereo : H / Stereo : L	H
58	FM+(RDS)	O	Tr switch ON/OFF for power supply of RDS decoder (L : AM, power OFF , H : Other)	H
59	9164_ CS	O	TC9163, TC9164 Chip select	
60	CRST	O	Reset for DSP	
61	CDC_PD	O	Power down for CODEC	
62	ABOT	O	Abort for DSP	H
63	RY_AC	O	AC relay ON/OFF	H
64	RY_A	O	Speaker A relay ON/OFF	H
65	RY_C/R	O	Rear/Center Speaker relay ON/OFF	H
66	EXP CS	O	Chip select for expand IC	H
67	EXP OE	O	Chip select for expand IC	H
68	RY_AC	O	AC relay ON/OFF control	H
69	S22	O	Segment output 22	H
70	S21		Segment output 21	
71	S20		Segment output 20	
72	S19		Segment output 19	
73	S18		Segment output 18	
74	S17		Segment output 17	
75	S16		Segment output 16	
76	S15		Segment output 15	
77	S14		Segment output 14	
78	S13		Segment output 13	
79	S12		Segment output 12	
80	S11		Segment output 11	
81	S10		Segment output 10	
82	S9		Segment output 9	
83	S8		Segment output 8	
84	S7		Segment output 7	
85	S6		Segment output 6	
86	S5		Segment output 5	
87	S4		Segment output 4	
88	S3		Segment output 3	
89	VDD	–	5V	
90	S2	O	Segment output 2	H
91	S1		Segment output 1	
92	Not used	O	Not used (Fixed Vfdp)	
93	G10	O	Grid output 10	H
94	G9		Grid output 9	
95	G8		Grid output 8	
96	G7		Grid output 7	
97	G6		Grid output 6	
98	G5		Grid output 5	
99	G4		Grid output 4	
100	G3		Grid output 3	

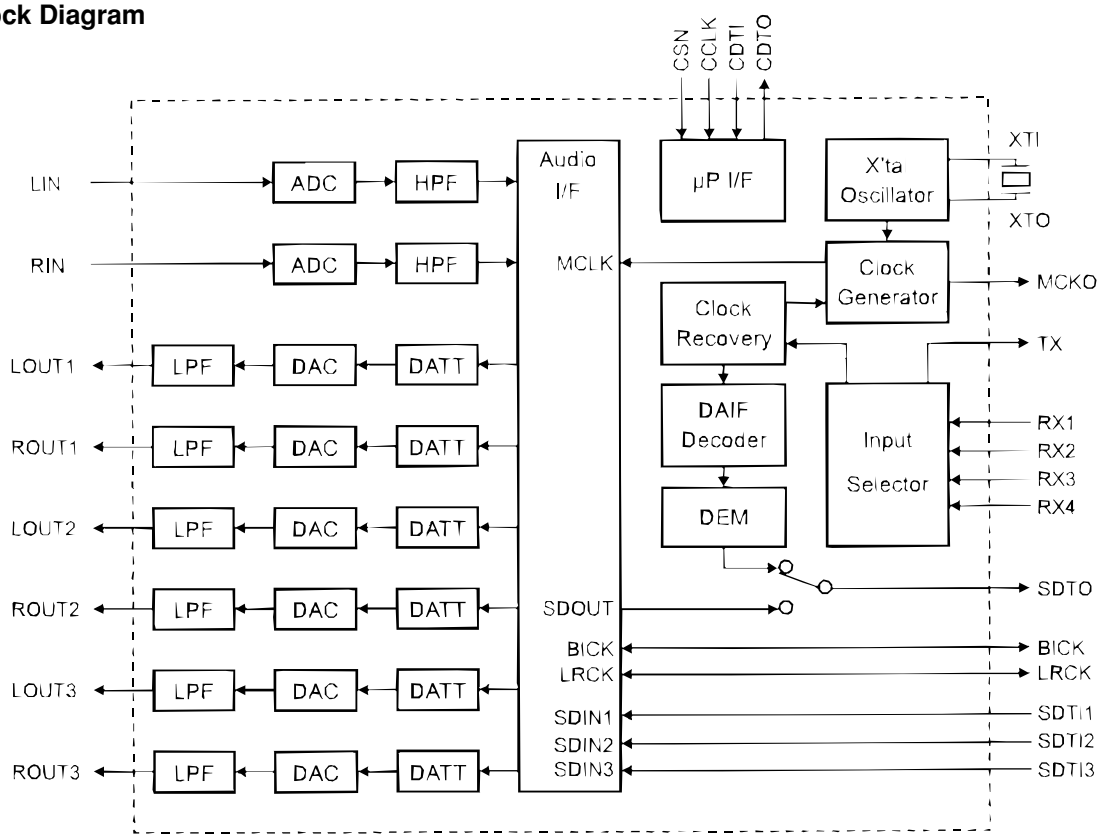
■ AK4586VQ (DD & INPUT ASSY : IC9101)

• 96kHz 24Bit 6-channel CODEC with DIR

■ Pin Arrangement (Top View)



■ Block Diagram



■ Pin / Function

PIN/FUNCTION

No.	Pin Name	I/O	Function
1	XTO	O	X'tal Output Pin
2	XTI	I	X'tal Input Pin
	EXTCLK	I	External Master Clock Input Pin
3	TVDD	-	Output Buffer Power Supply Pin, 2.7V~5.5V
4	DVSS	-	Digital Ground Pin, 0V
5	DVDD	-	Digital Power Supply Pin, 4.5V~5.5V
6	TX	O	Transmit channel (through data) Output Pin
7	MCKO	O	Master Clock Output Pin
8	LRCK	I/O	Input/Output Channel Clock Pin
9	BICK	I/O	Audio Serial Data Clock Pin
10	SDTO	O	Audio Serial Data Output Pin
11	SDTI1	I	DAC1 Audio Serial Data Input Pin
12	SDTI2	I	DAC2 Audio Serial Data Input Pin
13	SDTI3	I	DAC3 Audio Serial Data Input Pin
14	INT0	O	Interrupt 0 pin
15	INT1	O	Interrupt 1 pin
16	CDTO	O	Control Data Output Pin in 4-wire serial control mode
	CAD1	I	Chip Address 1 Pin in I^2C bus control mode
17	CDTI	I	Control Data Input Pin in 4-wire serial control mode
	SDA	I/O	Control Data Input/Output Pin in I^2C bus control mode
18	CCLK	I	Control Data Clock Pin in 4-wire serial control mode
	SCL	I	Control Data Clock Pin in I^2C bus control mode
19	CSN	I	Chip Select Pin in 4-wire serial control mode
	CAD0	I	Chip Address 0 Pin in I^2C bus control mode
20	DZF2	O	Zero Input Detect 2 Pin (Note 1) When the input data of the group 1 follow total 8192 LRCK cycles with "0" input data, this pin goes to "H".
	OVF	O	Analog Input Overflow Detect Pin (Note 2) This pin goes to "H" if the analog input of Lch or Rch is overflows.
21	AVSS	-	Analog Ground Pin, 0V
22	AVDD	-	Analog Power Supply Pin, 4.5V~5.5V

■ Pin / Function

No.	Pin Name	I/O	Function
23	VREFH	I	Positive Voltage Reference Input Pin, AVDD
24	VCOM	O	Common Voltage Output Pin, AVDD/2 Large external capacitor around 2.2μF is used to reduce power-supply noise.
25	DZF1	O	Zero Input Detect 1 Pin (Note 1) When the input data of the group 1 follow total 8192 LRCK cycles with "0" input data, this pin goes to "H".
26	LOUT3	O	DAC3 Lch Analog Output Pin
27	ROUT3	O	DAC3 Rch Analog Output Pin
28	LOUT2	O	DAC2 Lch Analog Output Pin
29	ROUT2	O	DAC2 Rch Analog Output Pin
30	LOUT1	O	DAC1 Lch Analog Output Pin
31	ROUT1	O	DAC1 Rch Analog Output Pin
32	LIN	I	Lch Analog Input Pin
33	RIN	I	Rch Analog Input Pin
34	PVDD	-	PLL Power Supply Pin, 4.5V~5.5V
35	R	-	External Resistor Pin 18kΩ +/-1% resistor to PVSS externally.
36	PVSS	-	PLL Ground Pin, 0V
37	RX4	I	Receiver Channel 4 Pin (Internal biased pin)
38	SLAVE	I	Slave Mode Pin "L": Master mode or Slave mode, "H": Slave mode
39	RX3	I	Receiver Channel 3 Pin (Internal biased pin)
40	TST	I	Test Pin This pin should be connected to DVSS.
41	RX2	I	Receiver Channel 2 Pin (Internal biased pin)
42	I2C	I	Control Mode Select Pin "L": 4-wire Serial, "H": I^2C Bus
43	RX1	I	Receiver Channel 1 Pin (Internal biased pin)
44	PDN	I	Power-Down & Reset Pin When "L", the AK4586 is powered-down, all output pins go to "L" and the control registers are reset to default state. If the state of CAD1-0 changes, then the AK4586 must be reset by PDN.

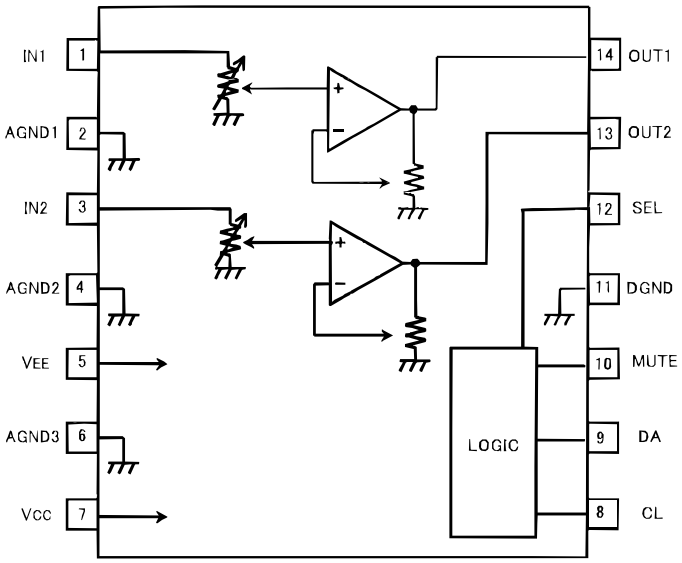
Notes:

1. The group 1 and 2 can be selected by DZFM2-0 bits.
2. This pin becomes OVF pin if OVFE bit is set to "1".
3. All input pins except internal biased pins should not be left floating.

■ BD3812F (D.D & INPUT ASSY : IC112)

• **Audio Sound Processor**

• Block Diagram



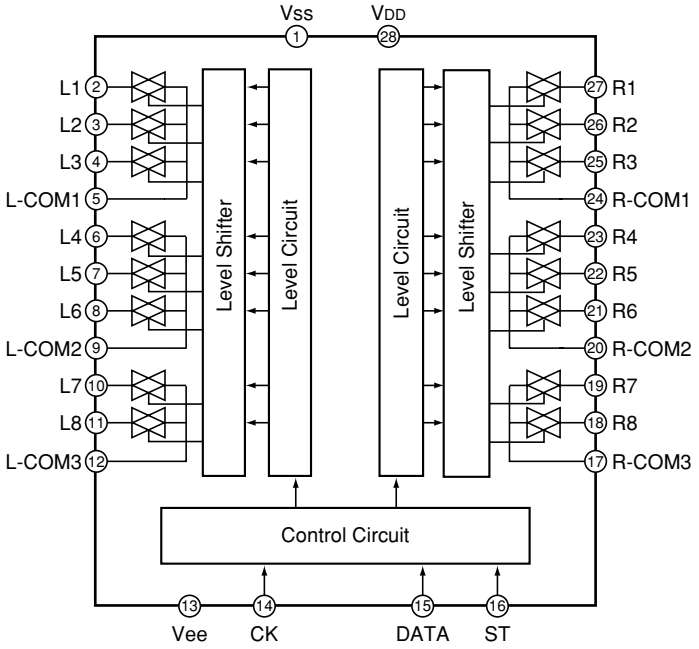
• Pin Function

No.	Pin Name	Function
1	IN1	1ch input terminal
2	AGND1	Analog ground terminal
3	IN2	2ch input terminal
4	AGND2	Analog ground terminal
5	Vee	(-) Power supply terminal
6	AGND3	Analog ground terminal
7	Vcc	(+) Power supply terminal
8	CL	Serial clock input terminal
9	DA	Serial data an latch input terminal
10	MUTE	Mute terminal
11	DGND	Ground terminal for comparator
12	SEL	Serial data select terminal
13	OUT2	2ch output terminal
14	OUT1	1ch output terminal

■ NJU7312AM (D.D & INPUT ASSY : IC102)

• **Analog Switch Array**

• Block Diagram



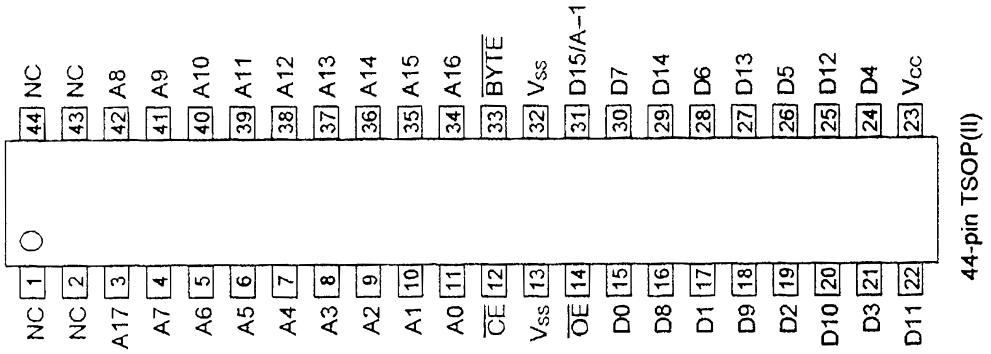
• Pin Function

No.	Pin Name	Function
1	VSS	Minus Power Supply
2, 27	L1,R1	Input and Output
3, 26	L2,R2	
4, 25	L3,R3	
5, 24	COM1	
6, 23	L4,R4	
7, 22	L5,R5	
8, 21	L6,R6	
9, 20	COM2	
10, 19	L7,R7	
21, 18	L8,R8	
26, 17	COM3	
13	GND	Digital Ground
14	CK	Clock Input
15	DATA	Data Input
16	ST	Strobe Input
28	VDD	Plus Power Supply

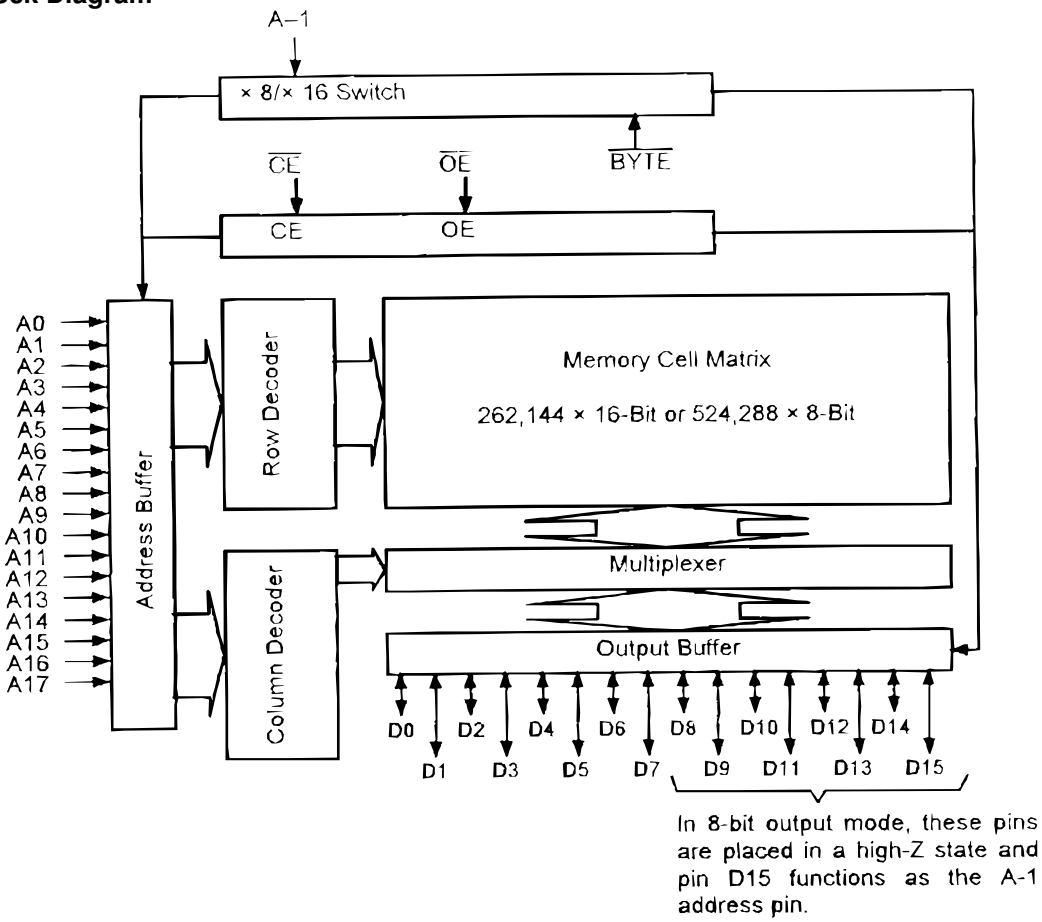
■ PD8097A (D.D & INPUT ASSY : IC9504)

• **4Mb P2ROM**

■ Pin Arrangement (Top View)



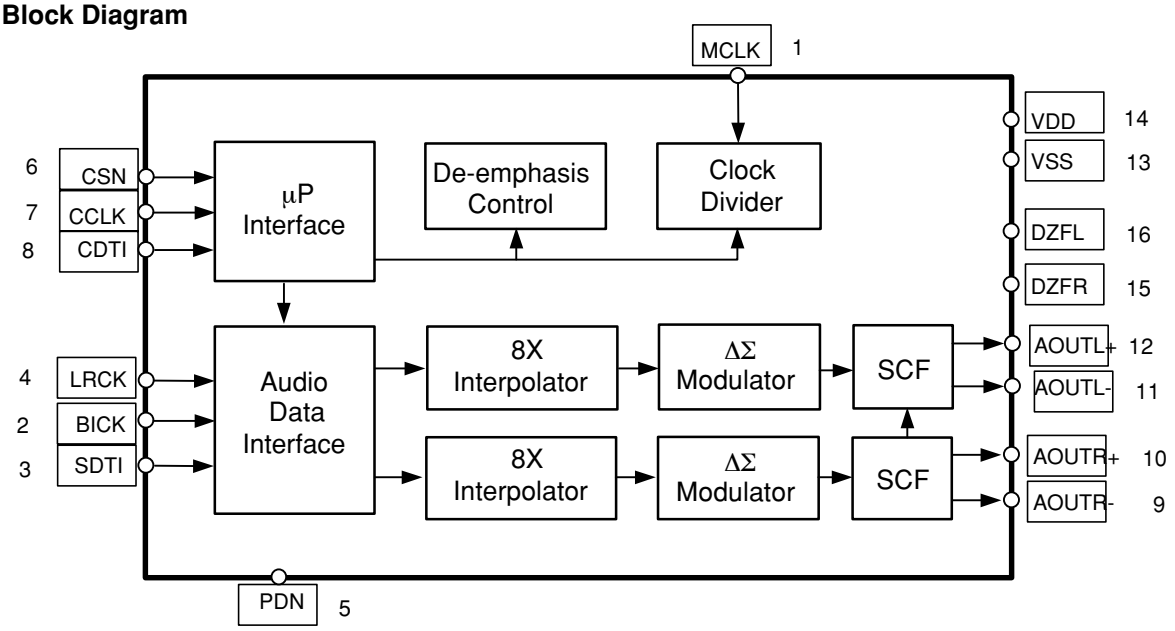
■ Block Diagram



■ AK4382AVT (DD & INPUT ASSY : IC9102)

• D/A Converter IC

■ Block Diagram



■ Pin Function

Pin / Function

No.	Pin Name	I/O	Function
1	MCLK	I	Master Clock Input Pin An external TTL clock should be input on this pin.
2	BICK	I	Audio Serial Data Clock Pin
3	SDTI	I	Audio Serial Data Input Pin
4	LRCK	I	L/R Clock Pin
5	PDN	I	Power-Down Mode Pin When at "L", the AK4382 is in the power down mode and is held in reset. The AK4382 should always be reset upon power-up.
6	CSN	I	Chip Select Pin
7	CCLK	I	Control Data Input Pin
8	CDTI	I	Control Data Input Pin
9	AOUTR-	O	Rch Negative Analog Output Pin
10	AOUTR+	O	Rch Positive Analog Output Pin
11	AOUTL-	O	Lch Negative Analog Output Pin
12	AOUTL+	O	Lch Positive Analog Output Pin
13	VSS	-	Ground Pin
14	VDD	-	Power Supply Pin
15	DZFR	O	Rch Data Zero Input Detect Pin
16	DZFL	O	Lch Data Zero Input Detect Pin

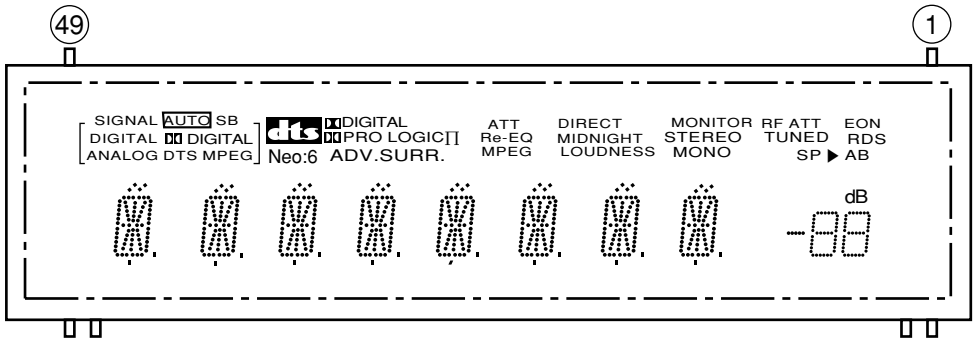
Note: All input pins should not be left floating.

7.2.2 DISPLAY

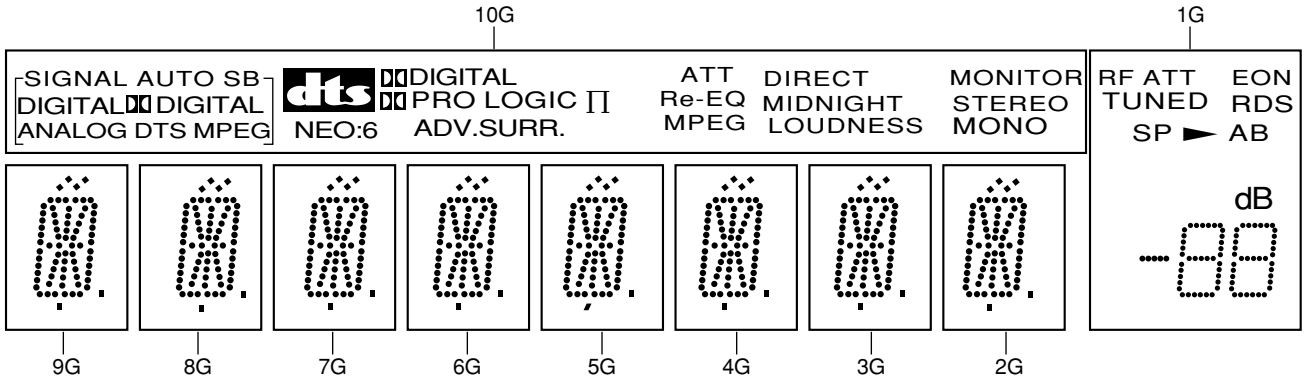
■ XAV3013 (FRONT ASSY : V401)

• FL DISPLAY

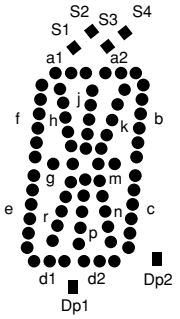
• Pin Assignment



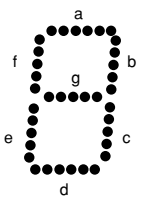
• Grid Assignment



• Segment Designation



(9G to 2G)



(1G)

• Pin Connection

Pin No.	49	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25
Connection	F2	F2	NP	NP	P22	P21	P20	P19	P18	P17	P16	P15	P14	P13	P12	P11	P10	P9	P8	P7	P6	P5	P4	P3	P2
Pin No.	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	
Connection	P1	NX	NX	NX	NX	NX	NX	NX	NX	NX	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G	NP	NP	F1	F1	

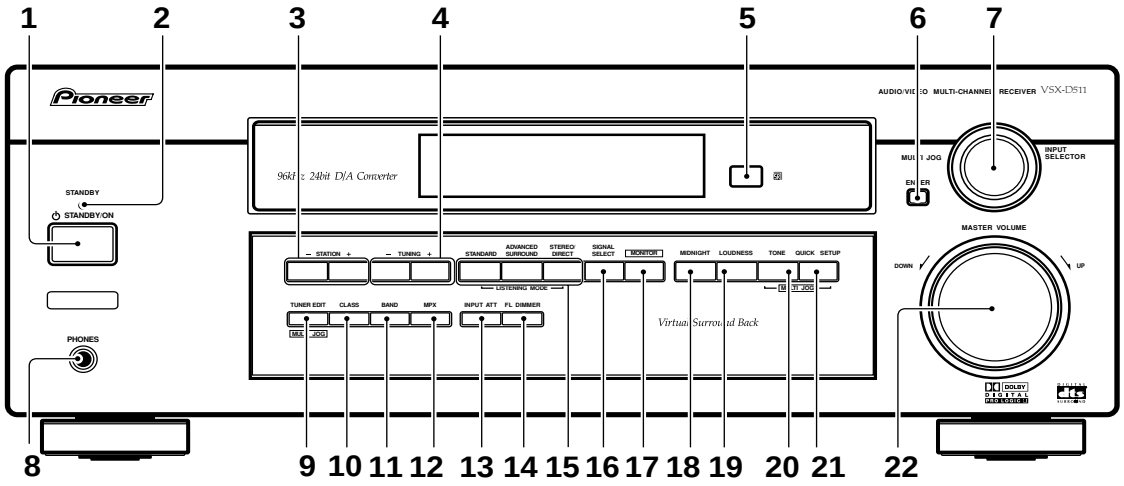
NOTE 1) F1, F2..... Filament
2) NP..... No pin
3) NX..... No extend pin
4) DL..... Datum Line
5) 1G to 10G..... Grid
6) Field of vision is a minimum of 21.8° from the lower side.

• Anode Connection

	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G
P1	S1	a1	a1	a1	a1	a1	a1	a1	a1	RFATT
P2	AUTO	a2	a2	a2	a2	a2	a2	a2	a2	EON
P3	SB	h	h	h	h	h	h	h	h	○
P4	DIGITAL	j	j	j	j	j	j	j	j	TUNED
P5	ANALOG	k	k	k	k	k	k	k	k	RDS
P6	DIGITAL (L)	b	b	b	b	b	b	b	b	S1
P7	DTS	f	f	f	f	f	f	f	f	A
P8	MPEG	m	m	m	m	m	m	m	m	B
P9	dts	g	g	g	g	g	g	g	g	1a
P10	MPEG	c	c	c	c	c	c	c	c	1b
P11	DIGITAL (R)	e	e	e	e	e	e	e	e	1f
P12	PROLOGIC ∏	r	r	r	r	r	r	r	r	1g
P13	Neo:6	p	p	p	p	p	p	p	p	1c
P14	ATT	n	n	n	n	n	n	n	n	1e
P15	ADV.SURR.	d1	d1	d1	d1	d1	d1	d1	d1	1d
P16	Re-EQ	d2	d2	d2	d2	d2	d2	d2	d2	2a
P17	DIRECT	Dp2	Dp2	Dp2	Dp2	Dp2	Dp2	Dp2	Dp2	2b
P18	MIDNIGHT	Dp1	Dp1	Dp1	Dp1	Dp1	Dp1	Dp1	Dp1	2f
P19	LOUDNESS	S1	S1	S1	S1	S1	S1	S1	S1	2g
P20	MONITOR	S4	S4	S4	S4	S4	S4	S4	S4	2c
P21	STEREO	S2	S2	S2	S2	S2	S2	S2	S2	2e
P22	MONO	S3	S3	S3	S3	S3	S3	S3	S3	2d

8. PANEL FACILITIES

Front panel



1 ⏻STANDBY/ON

Switches the receiver between on and standby.

2 STANDBY indicator

Lights when the receiver is in standby mode.

3 STATION (+/–) buttons

Selects station presets when using the tuner.

4 TUNING (+/–) buttons

Selects the frequency when using the tuner.

5 Remote sensor

Receives the signals from the remote control.

6 ENTER

7 MULTI JOG/INPUT SELECTOR dial

The MULTI JOG/INPUT SELECTOR dial performs a number of tasks.
Use it to select options after pressing TONE CONTROL, QUICK SETUP or TUNER EDIT.

8 PHONES jack

Use to connect headphones.

When the headphones are connected, there is no sound output from the speakers.

9 TUNER EDIT

Press to memorize and name a station for recall using the station (+/-) buttons.

10 CLASS

Switches between the three banks (classes) of station presets.

11 BAND

Switches between AM and FM radio bands.

12 MPX

Press the MPX button to receive a radio broadcast in mono.

13 INPUT ATT

Use to attenuate (lower) the level of an analog input signal to prevent distortion.

14 FL DIMMER

Use this button to make the fluorescent display (FL) dimmer or brighter.

15 LISTENING MODE buttons

STANDARD

Press for Standard decoding and to switch between the various Pro Logic II options.

ADVANCED SURROUND

Use to switch between the various surround modes.

STEREO/DIRECT

Switches direct playback on or off. Direct playback bypasses the tone controls and channel levels for the most accurate reproduction of a source.

16 SIGNAL SELECT

Use to select between an analog or digital signal.

17 MONITOR

Press to switch tape monitoring on/off.

18 MIDNIGHT

Use when listening to movie soundtracks at low volumes.

19 LOUDNESS

Use to boost the bass and treble at low volumes.

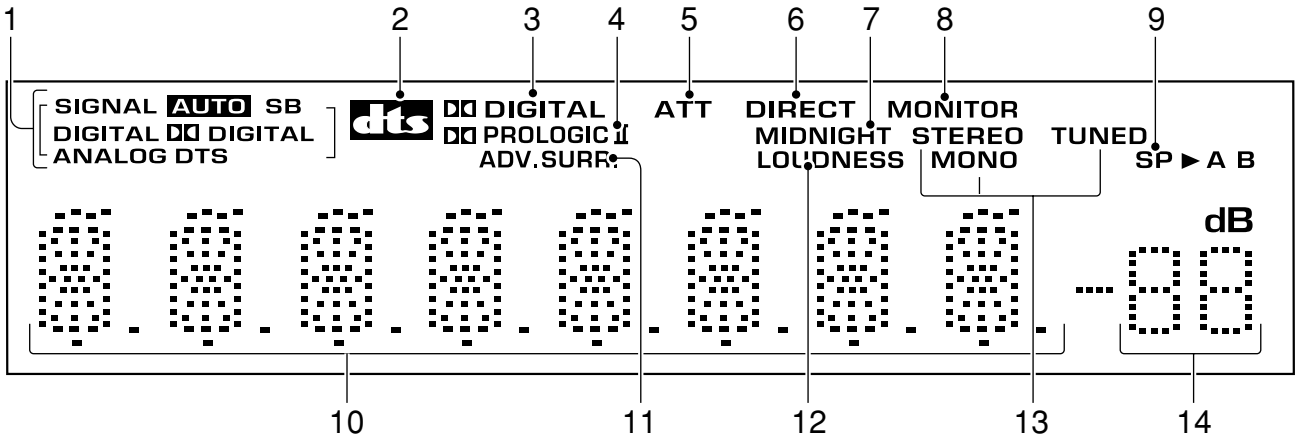
20 TONE

Press this button to access the bass and treble controls, which you can then adjust with the MULTI JOG/INPUT SELECTOR dial.

21 QUICK SETUP

22 MASTER VOLUME

Display



1 SIGNAL SELECT indicators
Lights to indicate the type of input signal assigned for the current component:

AUTO
Lights when AUTO signal select is on

SB
Depending on the source, this lights when a signal with surround back channel encoding is detected.

DIGITAL
Lights when a digital audio signal is detected.

2 DIGITAL
Lights when a Dolby Digital encoded signal is detected.

ANALOG
Lights when an analog signal is detected.

DTS
Lights when a source with DTS encoded audio signals is detected.

2 DTS
When the Standard mode of the receiver is on, this lights to indicate decoding of a DTS signal.

3 2 DIGITAL
When the Standard mode of the receiver is on, this lights to indicate decoding of a Dolby Digital signal.

4 2 PRO LOGIC II
When the Standard mode of the receiver is on, this lights to indicate Pro Logic II decoding.

5 ATT
Lights when INPUT ATT is used to attenuate (reduce) the level of the analog input signal.

6 DIRECT
Lights when source direct playback is in use. This function bypasses all tone, balance, Advanced surround, and Dolby Surround effects.

7 MIDNIGHT
Lights during Midnight listening.

8 MONITOR
Lights when MONITOR is selected

9 Speaker indicator
Shows the speaker system currently in use.

10 Character display

11 ADV. SURR (Advanced Surround)
Lights when one of the Advanced Surround modes has been selected.

12 LOUDNESS
Lights when LOUDNESS has been selected.

13 TUNER indicators

STEREO:
Lights when a stereo FM broadcast is being received in auto stereo mode.

MONO:
Lights when the mono mode is set using the MPX button.

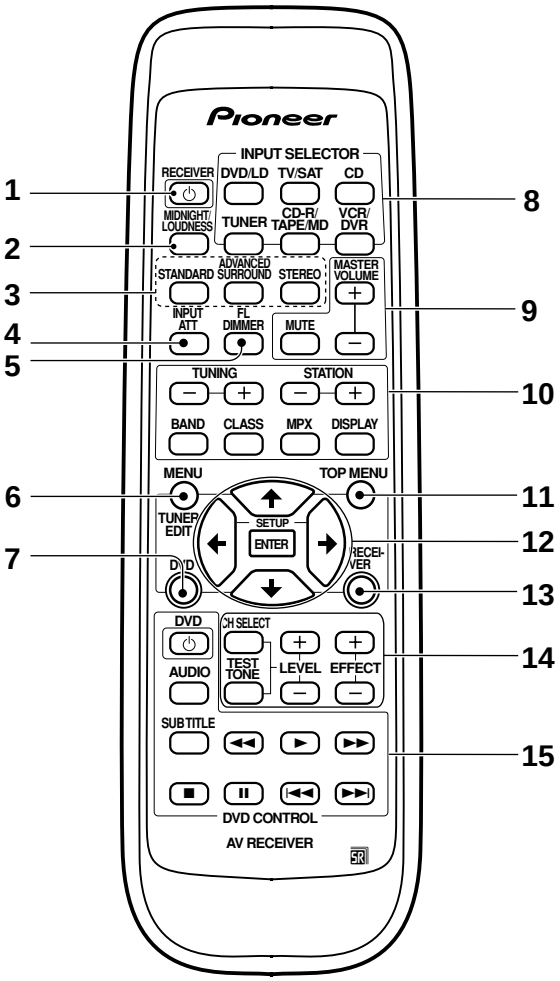
TUNED:
Lights when a broadcast is being received.

14 Master volume level
Shows the overall volume level. ---dB indicates the minimum level, and –0 dB indicates the maximum level.

Note

Depending on your level settings for each channel, the maximum level can range between –10 dB and –0 dB.

Remote control



1 ⏻ RECEIVER
Switches the receiver between on and standby.

2 MIDNIGHT/LOUDNESS
Use to switch to Midnight or Loudness listening.

3 LISTENING MODE buttons
STANDARD
Press for Standard decoding and to switch between the various Pro Logic II options.

ADVANCED SURROUND
Use to switch between the various surround modes.

STEREO/DIRECT (pages 24–25)
Switches direct playback on or off. Direct playback bypasses the tone controls and channel levels for the most accurate reproduction of a source.

4 INPUT ATT
Use to attenuate (lower) the level of an analog input signal to prevent distortion.

5 FL DIMMER
Use this button to make the fluorescent display (FL) dimmer or brighter.

6 MENU (DVD control)
Use to access different menus associated with your DVD player.
TUNER EDIT (Receiver control) (pages 35–36)
Press to memorize and name a station for recall using the STATION (+/–) buttons.

7 DVD
Use to switch over to the DVD controls on the remote control.

The DVD controls on the remote control (**TOP MENU, MENU**, ⇦⇨ ⇧ ⇩ and **ENTER**/**SETUP** buttons) can only be used for DVD control after pressing **DVD** on the remote. See the next page for more on the seperate **DVD CONTROL** buttons.

8 INPUT SELECTOR buttons
Use to select the input source.

9 Volume buttons
Use **MASTER VOLUME +/–** to set the overall listening volume.
Use **MUTE** to mute the sound or restore the sound if it has been muted.

10 Tuner controls
The **TUNING +/–** buttons can be used to find radio frequencies.
The STATION +/– buttons can be used to select preset radio stations.

BAND
Use to switch between the AM and FM bands when the tuner is selected.

CLASS
Use to switch between the three banks (classes) of station presets.

MPX
Use to switch between auto stereo and mono reception of FM broadcasts. If the signal is weak then switching to mono will improve the sound quality.

DISPLAY
Use to switch the display between the station preset name and the frequency.

11 TOP MENU
Displays the disc 'top' menu of a DVD.

12 ⇦ ⇨ ⇧ ⇩ **and ENTER/SETUP buttons**
Use these arrow buttons when setting up your surround sound system. These buttons are also used to control DVD menus/options.

13 RECEIVER
Use to switch to the receiver controls on the remote control. Also used when setting up the surround sound for the receiver.

14 CHANNEL SELECT
Use to select a channel when setting up the surround sound of the receiver.

TEST TONE
Use to sound the test tones when setting up the surround sound of the receiver.

LEVEL +/–
Use to set up the levels of the surround sound of the receiver.

EFFECT +/–
Use to add or subtract the amount of effect in different sound modes or advanced listening modes.

15 DVD CONTROL buttons
You can use these buttons to control a Pioneer DVD player connected to your system.

Button	What it does
DVD	Turns DVD power on/off.
AUDIO	Changes the audio language or channel.
SUBTITLE	Displays/changes the subtitles included in multilingual DVD-Video discs.
◄◄	Press to start fast reverse scanning.
►	Starts playback.
►►	Press to start fast forward scanning.
■	Stops playback.
❚❚	Pauses a disc that's playing, or restarts a paused disc.
⏮	Skips to the start of the current track or chapter, then to previous tracks/chapters.
⏭	Skips to the next track or chapter.

Rear Panel